ARCHITECTURAL REVIEW
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Der Macedonische Berg Athos in Gestalt eines Riesen, wie der Dinocrates, des Großen Alexanders Architect, solchen Bau angegeben. Vitruv: Præfat: L. 2. Strabo: Lib.

J.B.F. v. E. del: C.P.S.C.M:

THE ARCHITECTURAL REVIEW

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The Cover In his second book Vitruvius tells how Dinocrates suggested to Alexander that he should carve Mount Athos into the shape of a giant holding the town in his lap. The story was a favourite with architectural writers of the sixteenth, seventeenth and eighteenth centuries and frequently quoted and illustrated; this is Fischer von Erlach's version of it, as engraved in his *Entwurff einer Historischen Architectur*. On page 91 within will be found an article in which Dr. Lang shows how largely the theory of town planning, right up to the end of the eighteenth century, was based on stories of this kind rather than on visual considerations.

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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS

London is soon to be furnished with an important new work of outdoor sculpture, a figure of the Madonna and Child by Jacob Epstein. It is shown here in the sculptor's studio, modelled to full size in plaster, ready for casting in lead. It has been designed to adorn the face of a stone bridge recently built to link the two eighteenth-century houses in the centre of the north side of Cavendish Square. They are occupied by the Convent of the Holy Child, and have just been restored after severe war damage. Epstein's lead figure will be thirteen feet high and will hang on the flat stonework over the arch of the bridge, about twenty-five feet above the pavement, as shown in the elevational drawing on page 132.

J. M. Richards

CRITICISM

RECENT BUILDING IN OXFORD & CAMBRIDGE

There was a time when our older universities set the standard of intellectual life for the whole country; perhaps less in the visual arts than in some others, but to a great extent even in these, since men of learning were, at least until a hundred years ago, also men of taste. Indeed, less than a hundred years ago a movement as iconoclastic as the Preraphaelite was able to take root in Oxford and blossom forth from there.

Nothing of that kind could happen now. There seems not to be, in either of the two old universities, any awareness of what is happening in the arts in the contemporary world, nor any marked sense of what are the contemporary issues. I will not deny the existence of some occasional sophistication and knowledge of the arts among each passing generation of undergraduates, but it is not on them that a university counts to preserve the enquiring mind and the discriminating eye, which, taken in conjunction, are the basis of all vitality in the cultivation of the arts. It is, rather, the more permanent members of the university: the Fellows, the lecturers, the bursars of colleges. They set the standards, and they have the opportunity—indeed the duty—of keeping the best traditions alive. It may still be true that in science, literature and learning the senior members of the universities play their proper role of fostering ideas while preserving civilized values. The stream of modern poetry may still run strongest among the quadrangles of Oxford; experimental physics and literary criticism may spread their influence abroad from their headquarters in the courts of Cambridge. But in the visual arts—and even more in architecture—Oxford and Cambridge, judged on external evidence, have nothing whatever to contribute and, what is worse, no apparent sense of their collective responsibility in the matter.

In the case of so public an art as architecture, it is on external evidence that judgment must necessarily be based. Plenty of supporting evidence of the lack of æsthetic initiative among the leaders of university life is presented to anyone who has the privilege of entering a typical set of Fellow's rooms or the house of a married don, and observing his choice of furniture, pictures, curtains and colour schemes. But these are, perhaps, no more debased and dreary than the contents of middle-class houses in any

provincial town or superior London suburb, except for the marked absence of even an honest vulgarity. The best evidence lies in the buildings these same leaders of university life, sitting on councils and committees, commission and presumably approve. A few gleams of light relieve the otherwise gloomy picture: the fact that New College, Oxford, has recently acquired Epstein's 'Lazarus' and installed it in the antechapel, where it is placed with good judgment and admirable effect; and the fact that the repaving of the main court of King's College, Cambridge, and the replanting of the grounds of St. John's College, have been carried out with enterprise and skill, and with the advice of the best experts. But these are not enough to modify the critic's unavoidable conclusion that the buildings put up by the older universities and their component colleges in recent years, which are the subject of this article, have almost no contribution to make to the art of architecture and only reflect the artistic barrenness and timidity of academic taste.

It is true that those who build in the older universities face the difficult problem of reconciling the unfamiliar idiom of modern architecture with its setting of ancient buildings with all their traditional associations. But this is a problem that cannot be solved by being shirked. It was not shirked in the past, as the happy juxtaposition of gothic, renaissance and neo-classical buildings in so many colleges shows. It is also true that nowadays we have to be specially on our guard against allowing the new to intrude unkindly upon the old, because we tend to build with greater bulk and to disturb thereby a precious unity of scale, and we have many synthetic, insubstantial-seeming materials at our disposal which we have to be careful about using alongside mellowed brick and stone. But the fact that we must tread delicately out of respect for existing traditions need not preclude our buildings from belonging frankly to their own time.

That the worst way of paying respect to ancient monuments is by surrounding them with watered-down versions of themselves or with structures bearing caricatures of the various systems of ornament proper to another age and culture, is a lesson that this generation is, by and large, beginning to learn—except apparently at Oxford and Cambridge. At Oxford, indeed, a fashion has established itself during the last twenty years for out-sentimentalizing the sentimentalists by peppering the dignified ashlar stone city with buildings of rubble masonry entirely foreign to its character—more appropriate to a Cotswold village. These are a greater affront to the Oxford architectural tradition than any introduction of modern precision finishes in the way of marble slabs, travertine or glass, provided the latter are employed with reticence and attention to scale.

Nearly a score of buildings have been completed (or nearly enough completed to allow their quality to be judged) in Oxford and Cambridge during the post-war years. These include a couple of Cambridge buildings which may be said to be genuinely contemporary in spirit, though even about these, if we are looking for enterprising solutions to the problem just discussed, some reservations must be made. I will return to them later. Leaving them aside for the moment, the remaining work at either university can, it seems to me, be divided into four categories. The first might be described as the full-dress period style; the second as the whimsical-eclectic (an Oxford speciality, this); the third category is the modified Georgian, and the fourth contains the merely non-descript buildings.

The first category—that of full-dress period revival—one cannot justly condemn wholesale, because it is often the result not of conservatism but of the wish to complete some existing composition or to continue some established motif. At what point a work of restoration or addition becomes a building in its own right, demanding treatment as such, is arguable, and there is no harm in erring on the side of caution. There is some justification, for example, for the style of the new buildings, now nearing completion, at Downing College, Cambridge, 1. They close one end of Wilkins's spacious court. Some years back the late Sir Herbert Baker built some tiresomely fanciful additions to the Wilkins buildings. His partner, Mr. A. T. Scott, is now continuing the work, but has sensibly toned down the Baker deviations so as to approximate more nearly to the original. The result

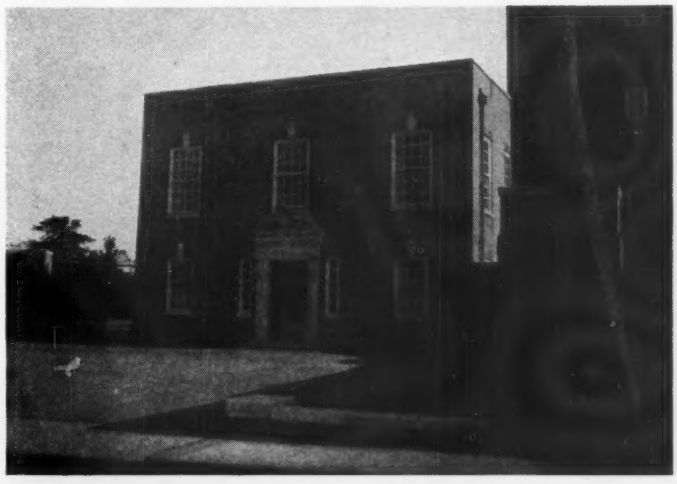
1, *additions to Downing College, Cambridge, by Sir Herbert Baker and A. T. Scott.*

is a pleasantly unassuming classical effort, though one would have liked still better a simple replica of Wilkins.

A border-line case, where straightforward copyism has some, but less clear-cut justification, is the new wing of St. Catharine's College, Cambridge, on the Trumpington Street frontage, 2, which has been designed by Mr. G. L. Kennedy as an exact counterpart of the wing he built some years ago, balancing it on the other side of the entrance. It is in a somewhat heavily handled, full-blooded renaissance style and bears no resemblance to the style of the old college buildings. But one fancy-dress wing being there already, there is an obvious case to be made

2, new wing, St. Catharine's College, Cambridge, by G. L. Kennedy.

for following it by another in the interest of symmetry. The third example of period-style design at Cambridge is quite unrelated to any setting of ancient buildings: a new entrance block at Newnham by Buckland and Haywood, 3. It is modest in scale and skilfully enough done, regarded as an exercise in period architecture, and is, therefore, not offensive to the eye. And it consorts well enough with the mixed eclectic styles of the rest of the college. One's complaint is simply



3, entrance block, Newnham College, Cambridge, by Buckland and Haywood.

that an opportunity was missed of building something with artistic meaning in our own day.

We have, however, to travel to Oxford to find a large-scale example of period-style architecture which has no justification whatever on grounds of consideration for the neighbours and represents missed opportunity of a really tragic kind. The first instalment of the new Nuffield College (architects, Harrison, Barnes and Hubbard) is now complete and occupied, 4. Its site is in New Road, between Carfax and the railway station, well away from the ancient colleges, and surrounded mostly by undistinguished nineteenth century commercial buildings. It therefore presented a rare opportunity of contributing to the architecture of Oxford something belonging, as does the foundation of Nuffield College, specifically to the twentieth century, and of showing that Oxford does not live only in the past. The clean simple lines of a modern building would have brought a breath of fresh air and sanity into the local medley of reminiscent styles, and have pioneered the rehabilitation of this part of Oxford on sensible lines.

The architects, instead, have chosen (or have been required to build) a reminiscence of a Cotswold manor, complete with high-pitched gabled roof covered with stone slabs, stone-roofed dormers, mullioned bay win-

4, first section of the new Nuffield College, Oxford, by Harrison, Barnes and Hubbard.

dows and the rest. The planning is no doubt efficient and the accommodation all it should be, but this kind of compromise between contemporary needs and what is imagined to be the English collegiate tradition is quite unworthy of the educational enterprise the new foundation represents. One recalls wistfully and wonderingly the far more sensitive, as well as far more contemporary, work the same architects have achieved elsewhere, notably in the Near East. The one thing to be thankful for about their latest building is that they have been content to use smooth-faced stone for its walls in the proper Oxford style and have not been tempted, in their search for rustic verisimilitude, into the use of rubble facing, as introduced in so many other parts of Oxford with extraordinarily unpleasing results. On the other hand, even if one endeavours to meet collegiate Tudor on its own ground, one still cannot feel that the most has been made of such pictorial charm as this style is capable of; for by painting the window frames and bars in a dark colour instead of light the architects have sacrificed much of its refinement of proportion, leaving the windows—especially the dormers—to read as gloomy apertures without scale or sparkle.

The only other new building in Oxford in the period-style category is rather more urbane in feeling. It is the small addition to St. John's College, 5, by Mr. Edward Maufe, at the end of St. Giles's, nearly opposite the Ashmolean Museum. It adjoins Sir Hubert Worthington's addition to Trinity, and the two have been related in a somewhat half-hearted fashion. They share the same roof and ridge line and have an identical cornice, but Mr. Maufe's façade breaks forward to form a kind of terminating pavilion to Sir Hubert Worthington's; yet, unexpectedly, it is the latter that has rusticated quoins, butting up rather illogically against the return of the former.

As period-style exercises go, the Maufe building is tastefully detailed and agreeably proportioned. The

5

6

5, new buildings in St. Giles's, Oxford: left, for St. John's College, by Edward Maufe; right, for Trinity College, by Sir Hubert Worthington. 6, quad at back of the St. John's College building.

little quad at the back, 6, completed by an Ionic bicycle shed, has a pleasant sense of enclosure which is greatly helped by the fine trees on their raised, stone-bordered lawn. If the façade facing St. Giles's is so reticent and simple as to become a border-line example between full-dress period style and modified Georgian (our third category), the next-door façade of Trinity College introduces our second category, which I have called the whimsical-eclectic. The pinched-in windows with their exaggerated voussoirs, the florid, coarsely detailed archway, the arty metal-work in the little windows on either side, come out of no period pattern-book; their only precedent is the other products of the same architect's fancy in other parts of Oxford.

One of these was erected some years ago along the Parks Road frontage of the University Museum site, 7. Its chief features were its elongated windows tapered towards the top, with bow-shaped arches whose weak unmuscular character was aggravated in the case of the trio of end windows by their being set in an apse itself doubly curved in plan. The building was made even more restless by a meaningless series of set-backs and breaks forward in the wall surface. A corresponding wing has now been built at the other end of the same frontage, 8. It is an austerity version of the first wing, for the end of the building is flat and the shaping of the window heads angular instead of curvaceous. But the more fanciful elements of the first wing recur in the far larger, quite recently completed, Imperial Forestry Institute, 9, also by Sir Hubert Worthington, in Parks Road nearby. This has an elaborately

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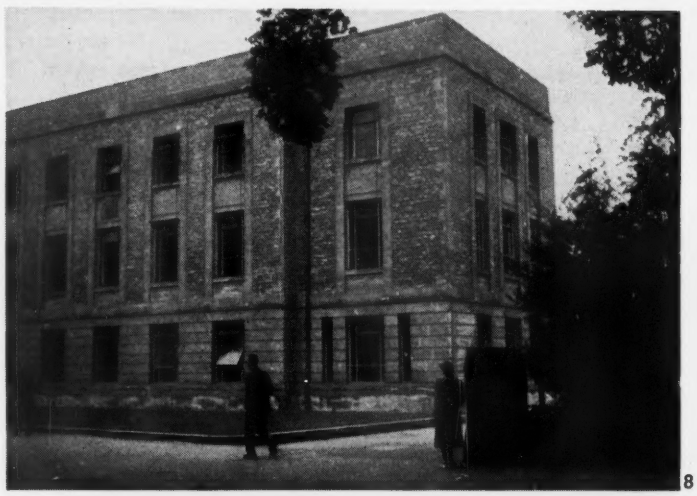

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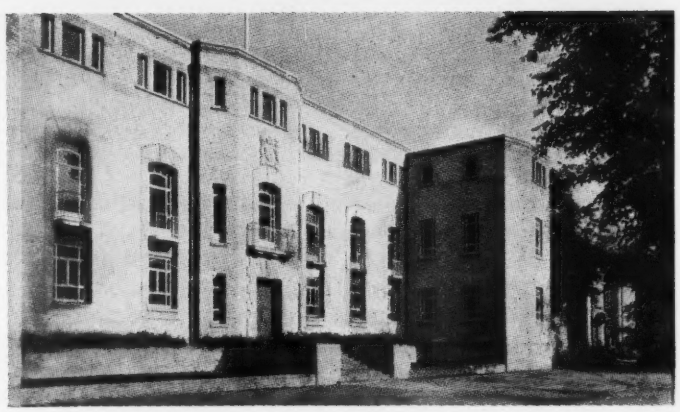


9

Three Oxford buildings by Sir Hubert Worthington: 7, University Museum site, Parks Road, first block; 8, second block; 9, Imperial Forestry Institute, Parks Road.

modelled symmetrical front with some oddly proportioned fenestration—the top-storey windows appear to be pushed right up into the parapet—and a positive riot of rounded bays, angles and set-backs, whimsically shaped windows and moulded voussoirs. Like the other two Worthington buildings (and the same architect's pre-war buildings for Merton College)

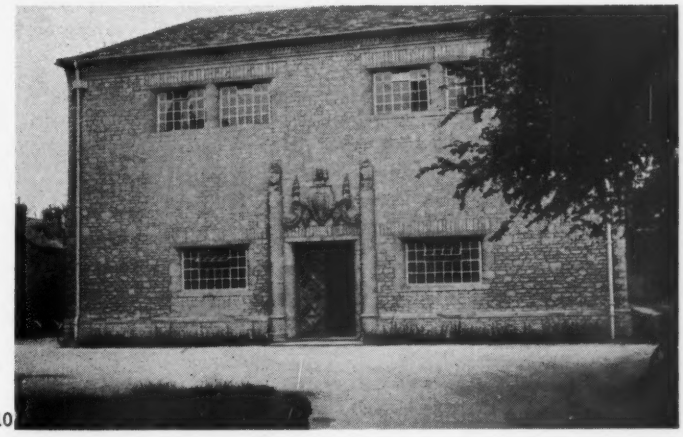
the walls are faced with rubble stonework, rough as to surface and small as to scale, giving that rustic effect I have already deplored as utterly alien to the urbane dignity of Oxford with its fine tradition of ashlar masonry.

This Cotswold-village rusticity first laid its hand heavily on Oxford when Sir Giles Scott built his new Bodleian Library, though the building that started the fashion, I suppose (or, more precisely, revived the fashion introduced by Jackson in the nineteenth century) was Sir Herbert Baker's Rhodes House of a few years before. Sir Giles Scott continues the unwelcome practice in the last and most bizarre of all the new buildings I have classed as whimsical-eclectic, the new women's college (which has just been granted full college status) of St. Anne's, in North Oxford. The entrance façade, 10, with its odd fenestration, its niggling stonework, and its doorway supported by strange totem-pole motifs, was completed a little while ago; the garden front, 11, like a frilled fortress with its even stranger battlement motif, is but now on the point of completion. It will puzzle any future historian who may try to deduce from it the principles according to which architects worked in the mid-twentieth century.

My third category is the modified Georgian, and the several buildings (all in Cambridge) that are thus best described can at least be taken more seriously as architecture than the whimsical-eclectic group, because to preserve the Georgian scale and proportions while discarding all but a suggestion of Georgian ornament is one of the accepted, if one of the conservative, ways of expressing polite regard for antique and beautiful surroundings. For these reasons Professor Richardson's restrained rectangular stone block at Christ's College, Cambridge, 12, is the most agreeable of all the recent additions to colleges, even though

12, *residential block for Christ's College, Cambridge, by Richardson and Houfe.*

its virtues are mostly not of a positive kind. It also has lessons to teach Oxford about the dignity of precisely detailed smooth ashlar stone. Its two faults are that the reduced ceiling-height which modern economy prescribes enables so many storeys to be crowded into a building of no remarkable height as to create the effect of a high commercial structure rather than a domestic one, and that the introduction of tall staircase windows on the elevation not shown here destroys by their somewhat aggressive verticality the very effect of polite conformity in scale and feeling that the architects have been at pains to preserve elsewhere.



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11

St. Anne's College, North Oxford, by Sir Giles Scott: 10, *entrance*; 11, *new block from garden.*

13, *new building for Trinity Hall, Cambridge, by Richardson and Houfe.*

Another, smaller building by the same architects, for Trinity Hall, also possesses restraint and dignity. Turning its back on Garret Hostel Lane, to which it presents an almost blank façade in beige-coloured brick, it faces inwards to a small paved courtyard, 13. Its square-cut, severely rectilinear detail makes no attempt directly to imitate the styles of the surrounding buildings. It is traditional only in its structure, in the subdivision of its windows and in the method of

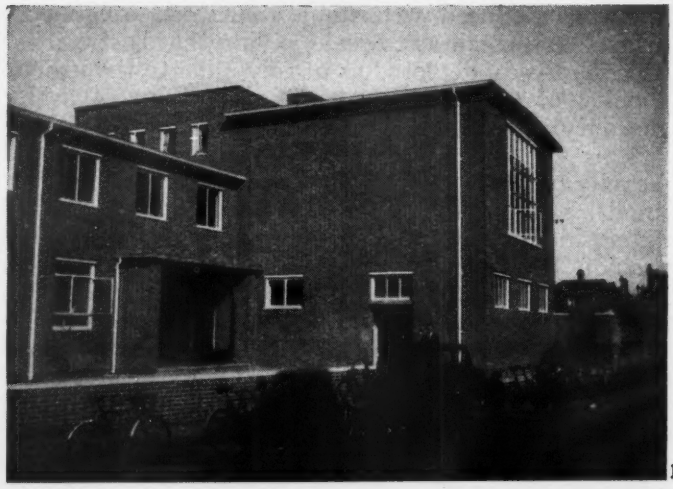
applying its fairly sparse (and, incidentally, somewhat insensitive) ornamentation.

The last building in the modified Georgian category has no need to conform politely to the style or character of neighbours since it occupies an independent, secluded site. This is the new King's College

14, *hostel for King's College, Cambridge, by Geddes Hyslop.*

Hostel, 14, near the Fellows' Garden off West Road—architect, Geddes Hyslop. It is placed in this category because its predominating manner is a genteel red-brick Georgian, but it might equally have been placed in the whimsical-eclectic category, displaying as it does an odd assortment of motifs including the fashionable neo-Georgian porthole window and, at the back, another of those tall staircase windows in the form of a stone or concrete grille, uncomfortably jammed into an angle of the building.

At this point it may be well to revive the reader's drooping spirits by introducing the two Cambridge buildings already mentioned that make some attempt to come to terms with the contemporary world. Neither the University Health Centre at Fenner's Sports Ground, 15 and 16, by James Macgregor and D. Wyn Roberts, nor the new engineering laboratories in Fen Causeway, 17, by Easton and Robertson is a revolutionary building; it has no need to be. But each shows a forthright use of materials and an exactitude of finish, resulting in far more architectural vitality than the architects of the other buildings referred to have been able to extract from their careful reminiscences of ancient styles. These two buildings cannot precisely be described as succeeding where the others have failed, not through any shortcomings of their own, but simply because their situation remote from the older colleges has not confronted them with the problem of juxtaposing the new successfully with the old. This problem has still to be met courageously and uncompromisingly; but it is satisfactory to be able to record the existence of a couple of straightforward modern buildings in Cambridge even though the need they answer is the ubiquitous urban one rather than a specifically Cambridge one. Both are predominantly of red brick. The Health Centre is spaciously planned in two L-shaped storeys; the engineering laboratories form one huge multi-storey rectangular block—at least in their present partly finished state. It is industrial



15

16

University Health Centre, Fenner's Sports Ground, Cambridge, by Macgregor and Roberts: 15, *street front;* 16, *rear courtyard.*

rather than collegiate in scale, and although its towering proportions are not the menace they would be nearer the centre of the university precinct, they do tend to dwarf Scroope Terrace and other pleasant domestic buildings in the neighbourhood. But perhaps this is a part of Cambridge that has got to accept a change of scale and character.

The remaining category of recent buildings contains those which can only be defined as nondescript. This is the only category in which one can place still another college hostel, that belonging to Trinity

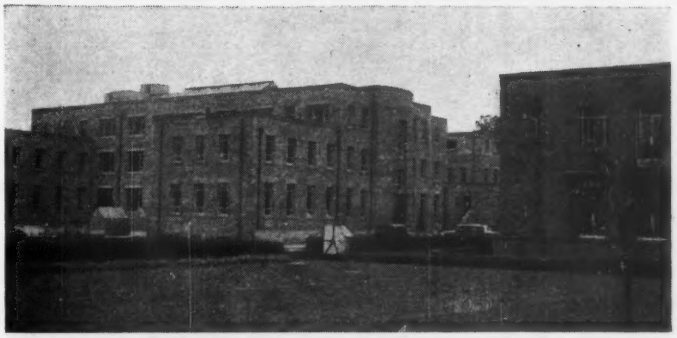
17, *engineering laboratories, Cambridge, by Easton and Robertson.*

College in Green Street, 18, by Forbes and Tate. It revives no single period style, yet has elements of many. It is built of light-coloured brick, abruptly ornamented with projecting bricks and bands of brickwork, with heavy shadowed eaves and dormer windows in a mansard roof above: a harsh and graceless building, and another wasted opportunity to build something truly contemporary, since the Green Street site set no problem of submission to the style of ancient buildings adjoining. Something less fussy would in any case surely have been better in so narrow a street.

18, *hostel for Trinity College, Cambridge, by Forbes and Tate.*

More non-committal in style is the still unfinished Physiology Building in the Parks at Oxford, 19, by Lanchester and Lodge. Also in brick, of rather indeterminate character and proportions, it is open to criticism not so much because of any intrinsic faults it may have, but because of the assault it and the other new buildings nearby make as a group on the scale of this part of Oxford, as a result of which the quiet charm of the Parks is being overwhelmed by the sheer bulk of bricks and mortar, the total effect of which is more reminiscent of a modern trading estate than an ancient centre of learning. The view at the foot of the page, 20, looking from the direction of the Parks towards Sir Hubert Worthington's Forestry Institute, shows the barren unimaginatively related building masses, separated by characterless spaces, of which this area of new development more and more consists. It is becoming a menace to the personality of Oxford and badly needs bringing under control.

19



20

New development in the Parks, Oxford: 19, *Physiology Building, by Lanchester and Lodge*; 20, *looking from the above towards Parks Road and the Imperial Forestry Institute.*

To complete this survey there is a most disappointing university venture on the outskirts of Cambridge in the shape of the staff flats at Shortacre (architects, Atkinson and Anderson) now under construction in the garden of a sizeable mansion, which has itself already been converted into flats. It is to consist of several blocks, the first of which, 21, is already sufficiently complete to show that it is traditional in style in the sense that it has brick walls, a tiled roof, dormers and small-paned windows; as traditional as, for example, an LCC block of flats of the period between the wars. But it has none of the stylishness and charm that are the least we can expect of a design that relies on traditional means and motifs; indeed, it has none of the sophistication and elegance to be found in some of the same architects' earlier work—their Regent's Park flats, for instance. This and the previous building mentioned are sponsored respectively by Oxford and Cambridge University itself—not, as in the case of many of the others, by individual colleges. It seems likely that the universities will be the biggest builders in the future—Cambridge University, for example, is now planning a vast building scheme between Sidgwick Avenue and the University Library—and the standard of architecture achieved in them will radically change for good or bad the appearance of large parts of the university. It will be a tragedy indeed if the university does not soon prove itself a more enlightened and discriminating patron than the depressing ventures recorded in this article suggest.

21, *Cambridge University staff flats at Shortacre, by Atkinson and Anderson.*

THREE BUILDINGS BY FREDERICK GIBBERD

The Clock Tower at Lansbury dominates the Market Square, providing a contrast to the comparatively low shop buildings surrounding it, and closes the vista from the principal road leading into the square. In addition to its function as a clock the building is also designed to provide a viewing point over the surrounding neighbourhood.

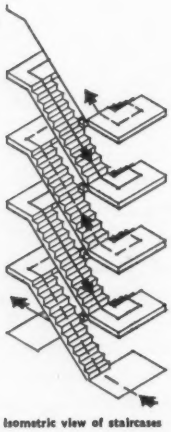
The tower consists essentially of two interlocking reinforced concrete staircases above which the clock and its mechanism are mounted. The two staircases start at opposite sides of the building, are placed parallel to each other, and go in opposite directions to meet at the viewing platform some 55 feet above the ground. As the stairs only meet at the top and bottom, it enables one to be used for going up, and the other for coming down, the public passing each other in opposite directions.

The scissor-like form of the staircase is expressed externally by the concrete edge of the landings, and the diagonal staircase beams. The latter intersect to form a series of diamond shapes which are left open for the view, and the landings are designed as a series of balconies. The walls are designed as a brick infilling, the bricks being of a warm red colour laid to a decorative bond. The viewing platform is cantilevered out from the main structure to form a comparatively large area, and the tower is opened up at this level so that there is little obstruction.

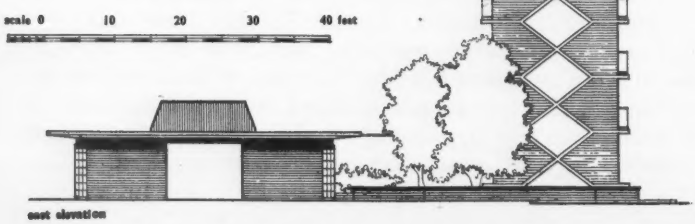
The clock face is eight feet in diameter and is some seventy feet above ground level. It consists of a white-enamelled steel ring with black chapters, mounted on the face of the brickwork. The tower is linked at its base to a small paved garden designed to provide an area in which to rest from the bustle of the market square proper.

The main structure of the tower consists of four reinforced concrete stanchions connected by the diagonal bracing ties which follow the line of the staircases, and by the half landings, which are cantilevered out to form balconies at the top of each flight. The reinforced concrete flights span between the half landings. The 13½ in. side walls are built in Surrey stock bricks laid in monk bond and are pierced by the diamond-shaped openings formed by the diagonal ties. The top gallery is cantilevered out on all four sides and the stanchions terminate 7 ft. 0 in. above this level, and are connected by a reinforced concrete ring beam. Space has been left between this beam and the clock chamber floors for bells, which could be added at a later date. The bells would be suspended over the two staircases. The clock chamber has a timber pitched roof covered with sheet copper on a felt underlay. The balustrades have tubular steel rails and standards with an infilling of rods at 3 in. centres. The stairs and landings are finished with granolithic paving. Exposed concrete elsewhere is left fairfaced and unpainted: internal brickwork is fairfaced.

The clock is a pendulum controlled type with gravity escapement and with pendulum compensated for variation in temperature. The clock is automatically wound by an electric motor, and driven by weights. These weights would continue to drive the clock for a period of two to three hours if the electricity supply temporarily failed.

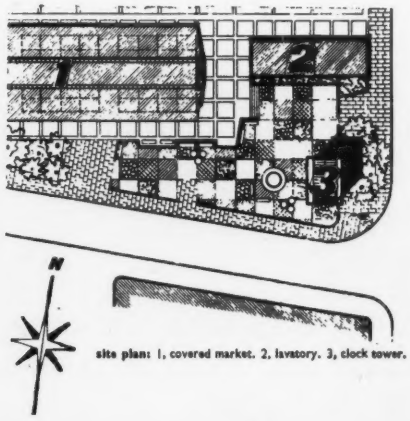


isometric view of staircases



east elevation

south elevation



site plan: 1, covered market. 2, lavatory. 3, clock tower.

1 CLOCK TOWER AT LANSBURY

1

The Clock Tower from the Market Place with the covered market in front of it.

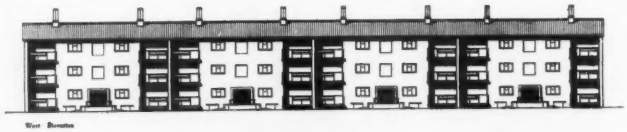
2, the main elevation looking south-east

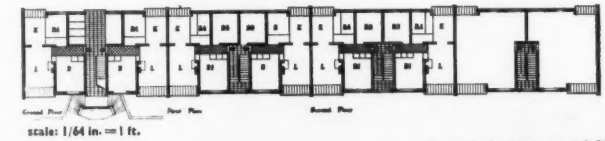
2 FLATS AT HARROW

The scheme consists of 66 one-bedroom flats, 58 two-bedroom flats and 8 three-bedroom flats in a series of blocks on either side and parallel to a main road. Service roads and main drainage lines were laid before the war to the design of the Borough Council, and in consequence, no freedom in site layout was possible to the architect. To counteract the untidy suburban environment the new buildings are designed to be broad and simple in character. The basic unit is a three-storey block of six flats with direct-in-pairs access, and these units are placed together to form long blocks of twelve, eighteen or twenty-four dwellings. The kitchen and living rooms are planned together so that they can form one large living space the full depth of the building. The living room extends for its full width on to a balcony, which is recessed for privacy. A balcony is placed at the opposite end for the kitchen, it thus being possible to have a through room opening out at either end. The bathroom is placed adjacent to the kitchen for economy in plumbing, and the linen cupboard is next to the living room fireplace, so that the hot water pipes run a minimum distance.

The external walls are 13½ in. solid brick, changing to 11 in. cavity brickwork at first floor slab level. Internal walls are of 9 in. brickwork where load bearing, otherwise they are 3 in. breeze. The ground floor is of hollow beam construction with filling below to raise the building to an effective height above drainage invert levels. The upper floors are of hollow tile construction with reinforced concrete slabs at the balconies. The staircases, landing and balconies are of reinforced concrete. The 30° pitch roof has wood rafters and purlins carried on steel trusses and on cross walls brought up to roof level. The roof finish is dark brown clay pantiles laid on battens and building paper.

Externally the buildings are finished with a Leicester buff facing; gable walls and balcony division walls are in Red Surrey Multi Stocks. The bricks are laid to double monk bond. The back walls of balconies are rendered with an off-white cementone finish. The eaves are designed as a simple rectangular profile with continuous white painted wood fascia and soffite, the gutter being concealed. The entrance porches consist of a stone





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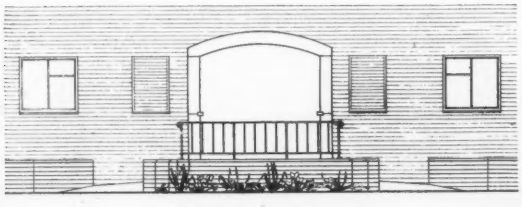
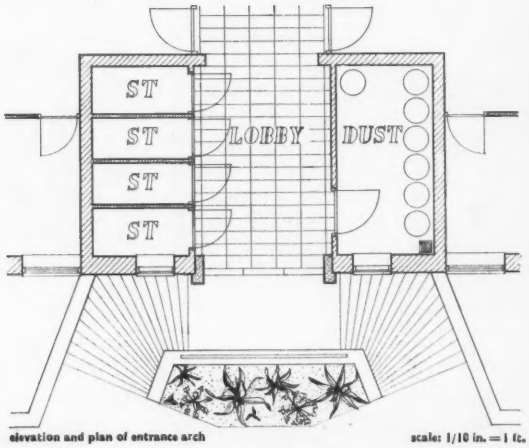




elevation and plan of entrance arch

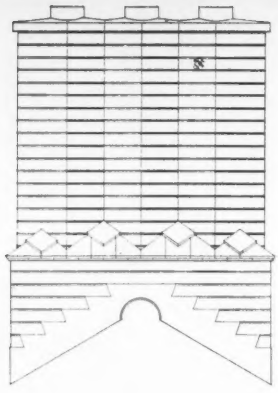
scale: 1/16 in. = 1 ft.

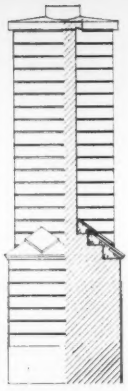
3, detail of one of the entrance arches

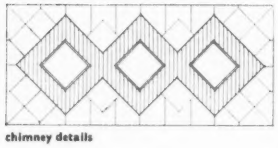
Detail showing the kitchen balconies. The recesses are finished off-white and the railings are painted grey. Doors are mid-blue and window frames white.

surround with flat or segmental head designed in relationship to the approach ramps and their metal balustrades. The steel windows are painted white, and the balcony railings and other metalwork are painted light grey. Public staircases and lobbies have grano floors and skirtings, silver grey guntex walls with distempered plaster ceilings and soffits. The flats have plastic floor tiles throughout, with distempered plaster walls and ceilings. Floors to balconies are of asphalt. Cills generally are of 4 in. × 4 in. quarry tiles except in bathrooms, where white glazed tile cills are carried down as a splash back to wash basin and bath. All doors are four panelled except for a solid flush front door. Door furniture is of plastic.

5

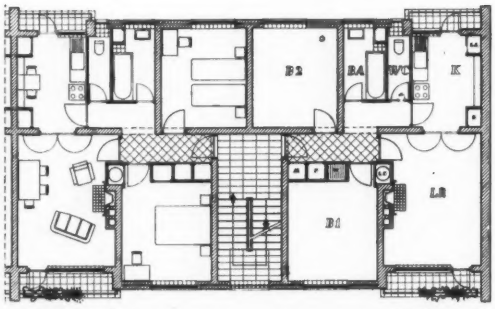






chimney details

5, the living room elevation of a typical three-storey block. The balconies form a continuation of the living-room. Their fitted window-boxes are seen clearly in the detail, 6.



plan of 2-bedroom flats

scale: 1/10 in. = 1 ft.

6

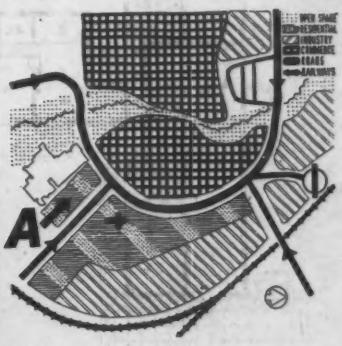
FLATS AT HARROW

Main elevation of one of the long blocks containing 24 flats.

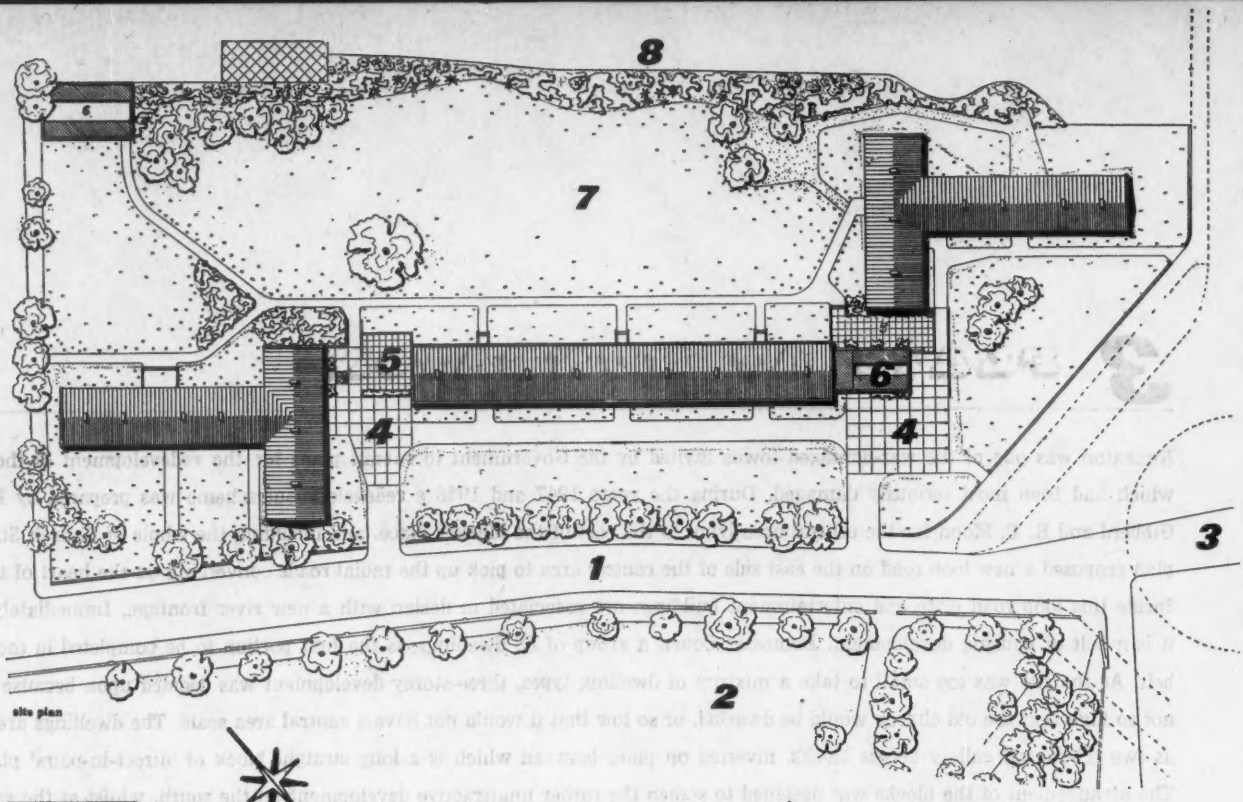
7

3 FLATS AT NUNEATON

Nuneaton was one of the war-damaged towns invited by the Government to submit plans for the redevelopment of those areas which had been most seriously damaged. During the years 1947 and 1948 a redevelopment scheme was prepared by Frederick Gibberd and R. C. Moon for the central area lying to the east of the Market Place, and including the whole of Church Street. The plan proposed a new loop road on the east side of the central area to pick up the radial roads converging on the heart of the town. Inside this loop road civic and entertainment buildings are associated in design with a new river frontage. Immediately outside it is a belt of housing development. Dempster Court, a group of 58 dwellings, is the first portion to be completed in the housing belt. As the site was too small to take a mixture of dwelling types, three-storey development was decided upon because this was not so high that the old church would be dwarfed, or so low that it would not have a central area scale. The dwellings are planned as two 'T'-shaped gallery access blocks, inverted on plan, between which is a long straight block of 'direct-in-pairs' plan form. The arrangement of the blocks was designed to screen the rather unattractive development on the south, whilst at the same time preserving a reasonable depth of garden for the tenants. The blocks are placed as close as possible to each other to make an urban character and so that secondary compositions could be formed by their junctions. Paved forecourts are formed between the ends of the blocks and are extended into terraces overlooking the garden. The two blocks are linked at the north-west end by a single storey building containing cycle sheds and the utility room. The scheme was awarded a housing medal for the Midland Region in 1951.



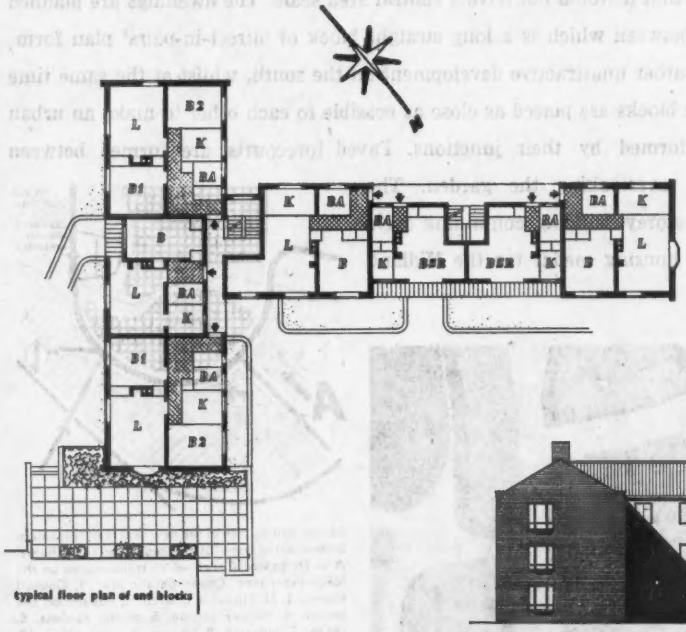
Above, zoning plan of the new centre of Nuneaton. Below, aerial view of the model of the scheme. A is Dempster Court which is illustrated on the following pages. Other details are: 1, Council House. 2, St. Nicholas Church. 3, bus station and garage. 4, railway station. 5, public gardens. 6, shops. 7, industry. 8, library. 9, post office. 10, police station and court. 11, civic theatre. 12, cinema. 13, flour mills.



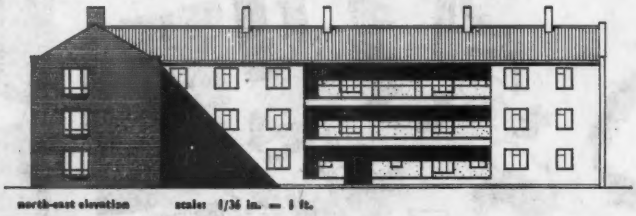
site plan

key

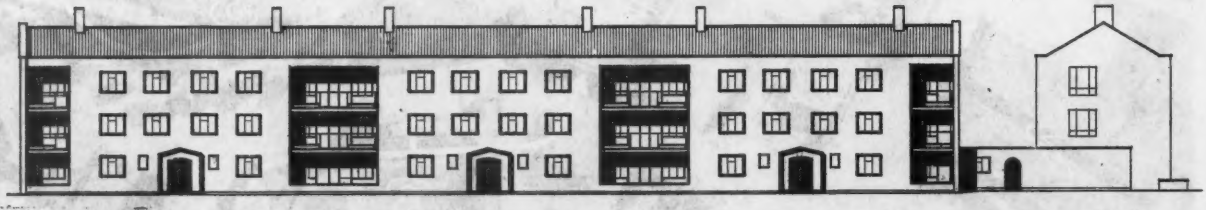
1, Church Street. 2, St. Nicolas Church. 3, future roundabout. 4, entrance forecourt. 5, terrace. 6, pram and cycle sheds. 7, private garden. 8, existing wool works.



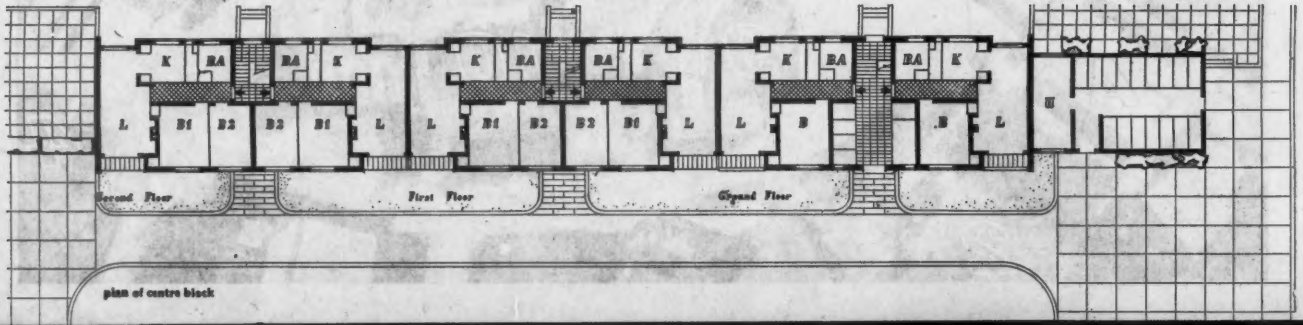
typical floor plan of end blocks



north-east elevation scale: 1/36 in. = 1 ft.



north-east elevation



plan of centre block

8

8, view from the east looking towards the proposed roundabout. 9, general view showing the step composition in which receding planes narrow the view towards the main road.

FLATS AT NUNEATON

As the prospect on the north-east is the most attractive, the flats are designed so that their living spaces have two aspects, one for the view, the other for the sun.

The walls are of load-bearing brickwork (13½ in. or 9 in. rendered externally, with 9 in. spines), and partitions are 3 in. breeze blocks. The ground floor consists of a 6 in. concrete slab, reinforced where it spans existing air raid shelters. The first and second floors are of hollow tile construction cantilevered out to form the balconies and access galleries. The roof is of clay pantiles on wood joists supported by wood trusses. Window, door surrounds and linings to recesses are artificial stone.

The main walls in all the buildings are of a pinkish-beige sand-faced brick, which is contrasted by a dark red brick to the gable ends. A double monk bond was

9

10

adopted, the whole of the façade being set out to a large scale to ensure that the pattern over them was an even one. A traditional Warwickshire diaper pattern of blue bricks is used on the gable ends of the long block. Reconstructed stone is used for copings, entrance doors and balcony surrounds, and the balcony and gallery recesses are finished in a patent sprayed cement rendering of silver grey colour. The roofs are of a very dark brown sand-faced pantile. The windows throughout are painted white and the balustrades and other ironwork light grey.

All flats have coloured asphalt floors with timber skirtings. Small areas in front of the kitchen sink and cooker having an inset of heather brown quarry tiles. Walls and ceilings are normally plastered and distempered. Kitchens and bathrooms have painted plaster walls with white glazed tile splash backs over fittings and glazed tile window cills. Window cills are finished in 4 in. × 4 in. red quarries, excepting to the oriel window which is in linoleum.

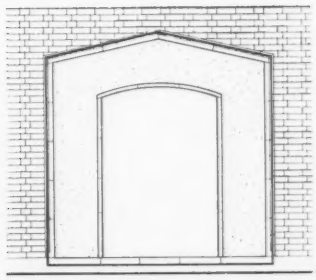
10, rear elevation of the one and two-bedroom flats in the long block facing the main road. 11, junction between the long block and one of the T-shaped blocks. The low structure contains cycle sheds.

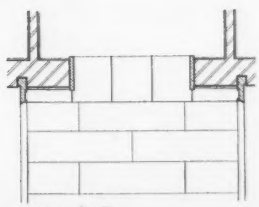
11

12

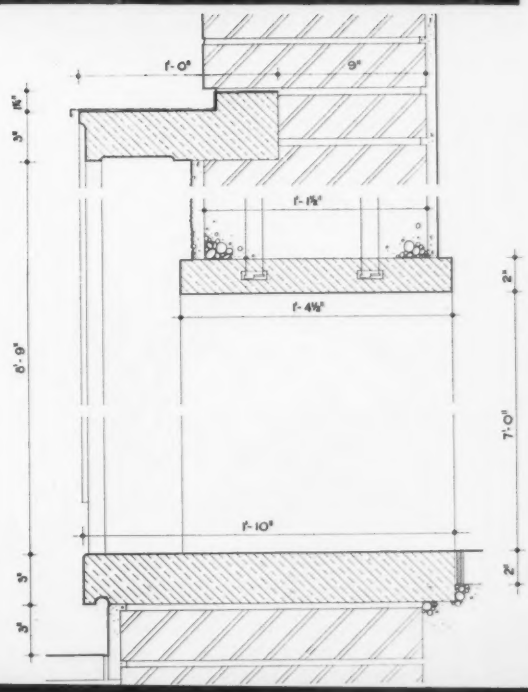
12, the link between the long block on the left and the western end of the T-block on the right. 13, rear elevation of the mixed flats in the T-block adjoining the proposed roundabout. The ribbed concrete balconies are finished off-white.

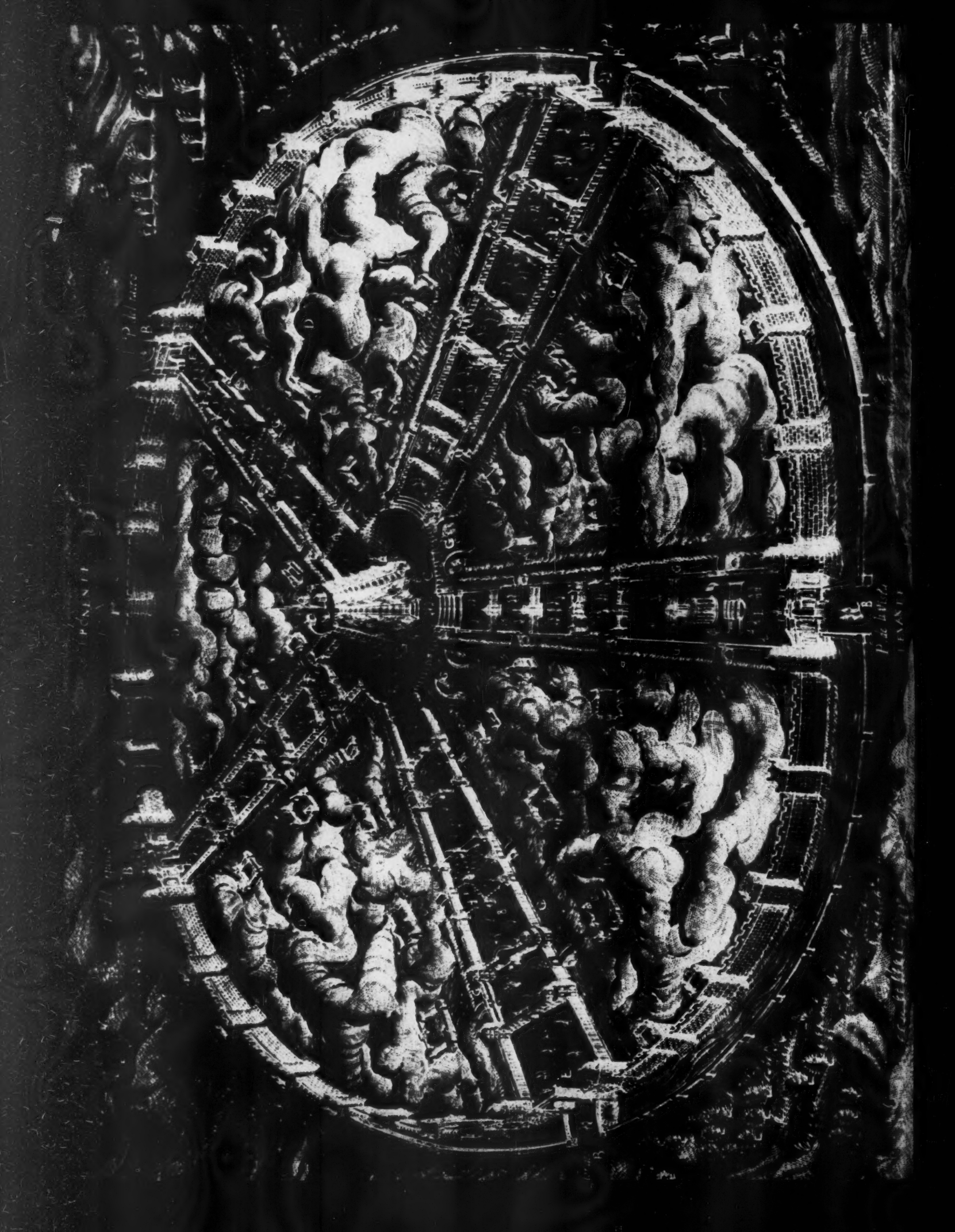
13





gateway details





This view of the City of Truth is an illustration taken from Bartolommeo Delbene's Civitas Veri sive morum *(published in 1609 though written in 1585), an allegorical poem describing a dream in which Aristotle conducts Delbene's patroness Marguerite of Savoy round the City of Truth. This consists of the five highways of the moral virtues, the swamps of vice and the rising mountain with the temples of the intellectual virtues. The whole is an allegory of Aristotle's* Nicomachian Ethics. *It is shown here to illustrate the influence which the images of towns, their gates and walls had on the mind of men. Cities are not, as many will make us believe, chance agglomerations of human dwellings formed by geography and regulated by economics, but conceptions of a higher order.*

S. Lang

THE IDEAL CITY

FROM PLATO TO HOWARD

A consistent theory of town planning that regards it as a visual art is one of the crying needs of our age. Has any such theory existed in the past? That was the question which Dr. Lang set out to answer. After studying all the important writers who dealt with the planning of towns and cities from Plato on, she is able to show that, far from there ever having been such a theory, the very concept of town planning as a visual art is something quite new. Early town planning theory appealed to astrology, theology, and the myths of the ancients for its sanctions: with the sole exception of Alberti no theorist seemed to have allowed the slightest importance to visual considerations.

antiquity

The earliest consciously evolved town planning system of which we have any record is that of Hippodamus, as described by Aristotle;[1] the earliest ideal city is that described by Plato in the *Republic*.

> 'It would seem that our city, being new and houseless hitherto, must provide for practically the whole of its house-building, arranging all the details of its architecture, including temples and walls. The temples we must erect all round the market-place and in a circle round the whole city, on the highest spots, for the sake of ease in fencing them and of cleanliness; beside the temples we will set the houses of the officials and the law-courts, in which, as being most holy places, they will give and receive judgements—partly because therein they deal with holy matters, and partly because they are the seats of holy gods; and in these will fittingly be held trials for murder and for all crimes worthy of death.'[2]

Whether Plato's city was based on the Hippodamian system (as von Gerkan asserts)[3] we do not know; nor can we say with any certainty whether or not—and if so, how far—the *Republic* was influenced by the actual Greek methods of colonization, and in particular by the foundation of Thurioi, which was intended as an ideal city to symbolize the unity of all the Greeks. In any case, Plato's was the first of the Utopias—a generic title which we owe, of course, to Sir Thomas More's celebrated book of 1516.

Turning from theory to practice in classical antiquity, we are again confronted by a choice of hypotheses. In founding Alexandria on a chequer-board plan Alexander the Great may simply have been following the usage of the time. Or he may, on the other hand, have been influenced by Aristotle, whose *Politics*, it has been suggested, were dedicated to him.[4] If the second explanation be accepted, we have here the first example of that collaboration between philosopher and town planner which we shall encounter so often later on.

Vitruvius, admittedly, tells us that Alexander was offered the plan of a town by an architect and readily employed him.[5] But then Vitruvius writes as an architect himself, and is not altogether without *parti pris*. Moreover, it is noticeable that Vitruvius does not actually describe this plan; nor does he anywhere in his treatise, although he touches on town planning problems, make very far-reaching suggestions as to lay-out, but contents himself with a few hints on the ornament of streets and squares. Thus already in antiquity we have that division between architect and planner which we shall find again in modern times: the architect designs the parts, while the overall plan is the concern of the philosopher. There is at least one ancient philosopher who stepped forward to urge a ruler to build a town: Porphyry in his *Life of Plotinus* (XII) relates as follows:

[1] *Politics* II, 5; VII, 10, 11.
[2] Plato, *Laws*, VI, 778A.
[3] A. v. Gerkan, *Griechische Städteanlagen*, Berlin 1924, p. 62.
[4] E. v. Ivanka, *Die Aristotelische Politik und die Städtegründungen Alexander des Grossen*, Budapest 1938.
[5] Book II. Introduction. Also see cover of this issue.

'The Emperor Gallienus and the Empress Salonina, his wife, held Plotinus in high regard. Counting on their good will, he besought them to have a ruined town in Campania rebuilt, to give it with all its territory to him, that its inhabitants might be ruled by the laws of Plato. Plotinus intended to have it named Platonopolis, and to go and reside there with his disciples. This request would easily have been granted but that some of the Emperor's courtiers opposed this project, either from spite, jealousy or other unworthy motives.'

And the mere fact that philosophers did concern themselves with city design indicates that a city meant something more than a conglomeration of buildings: it was conceived as a spiritual entity, just as throughout Greek and Roman times it remained a political entity. If additional proof of this is needed, there are the magic rites connected with the foundation of Etruscan and Roman towns and the consideration that many of the deified heroes of Greek mythology were founders of cities.

town imagery

This conception of the city as a spiritual entity played an important part in ancient thought. How important may be gathered from the frequency with which its imagery is used as a vehicle for the expression of symbolism. For instance, the *Tabula Cebetis*[6], 2 (translated into English as *A True Emblem of Human Life*), which although it purports to be Greek and the work of a pupil of Socrates probably dates only from the first century A.D.,[7] describes life, its stations and pitfalls in terms of gates and walls: '. . . See you this enclosure? . . . Then mind me. This is called Life, and the great multitude you see flock about the gate, are such as are to enter in [to be met by Imposture, Error, Opinions, Desires, etc.]. You see now that past that Gate there's another enclosure lying higher up and certain women dress'd after the same sort standing at the door [Incontinence, Luxury, Avarice, Flattery] . . . Behold yonder another enclosure . . .' Better known but equally revealing are the various passages in *Revelation* and *Hebrews* using similar imagery, such as: 'for he looked for a city which hath foundation, whose builder and maker is God; . . . wherefore God is not ashamed to be called their God: for he hath prepared for them a City'. . . . 'And I John saw the Holy City, New Jerusalem, coming down from God out of heaven prepared as a bride adorned for her husband.'

From *Revelation* comes one idea in particular which was taken up by the Middle Ages—that of Jerusalem as a community of saints opposed to the sinful Babylon. Tychonius was the first to adopt it: 'Here are the two cities, that of God and that of the Devil . . . it is evident that they are two cities, two kingdoms, two kings, Christ and the Devil; each of them rules in the one or the other . . . these are the two cities, the one of the world and the other which wishes to serve Christ. They both work, the one to find the principle of its damnation, the other to find the principle of its salvation.'[8] Augustine followed him in *De Catechizandis Rudibus*: 'Jerusalem signifies the city and the society of saints and Babylon signifies the city and the society of the godless.'[9] In his *Civitas Dei* the symbolic content becomes predominant, superseding the material cities. The Civitas Dei stands for the community of saints and the Civitas Terrena for the city of the impious. The earthly city is at the same time the habitation of the Virtues and Vices. At first sight these medieval allegories may seem to have little to do with town planning theory or practice. But it must be remembered that they were given visual form in illuminations[10], 3, which became more naturalistic as time went on and which may be counted among the progenitors of the pictorial representations of towns in Renaissance painting—representations which had no small influence on the conscious creation of urban space.[11]

[6] I am greatly indebted to Prof. E. H. Grombrich for having drawn my attention to this work.

[7] Pauly-Wissowa, *Real-Encyclopädie der Klassischen Altertumswissenschaften*, Stuttgart 1921, Vol. XI, col. 102 ff.

[8] Tychonius as quoted by G. Bardy, *Saint Augustin*, 6th edition, Paris 1946, p. 358.

[9] St. Augustine . . . *De Catechizandis Rudibus* 19, 20, 21, as quoted by Bardy loc. cit.

[10] For illustration see A. de Laborde, *Les Manuscrits à Peintures de la Cité de Dieu de Saint Augustin*, Vol. III, Paris 1909.

middle ages

In the Middle Ages, as in antiquity, the town was something more than the sum of its parts.[12] Although it is difficult to find proof and the problem appears evasive, a few points can be made. Isidore of Seville incorporated statements about citizens and cities in his Etymologia in: 'Cives vocati, quod in unum coeuntes vivant, ut vita communis et ornatior fiat et tutior. . . . Domus unius familiae habitaculum est, sicut urbs unius populi sicut orbis, domicilium totius generis humani.' That the town was a definite part of medieval society can be gathered best from 'tres autem sunt societates: familiarum, urbium, gentium.'[13] Like in antiquity we find the foundation of the town to be an important act in the Middle Ages whose significance possibly goes beyond the mere legal aspect. Equally the foundation charters are more than legal documents.[14] Moreover, the insistence of towns on being separate institutions points to the idea that indeed the medieval Civitas was a spiritual entity as was of course—as has been frequently elaborated—the 'imperium' too. There is even reason to believe that the wave of town founding that swept Europe in the second half of the thirteenth century was due to Thomas Aquinas's contention that the city was the ideal community: '*Civitas communitas perfecta est.*'[15]

renaissance

The philosophical basis for the art of town planning had therefore been well established before the Renaissance, when town planning in the modern sense was first discussed in concrete terms. The town planning theory and practice of the Renaissance lends itself to treatment under three heads: the work of a few Renaissance architects, the Ideal City of Filarete, and the extra-architectural contribution. The third of these, which may be dealt with relatively briefly, shall be taken first.

the extra-architectural contribution

One form of activity which undoubtedly contributed to the development of town planning was the drama. It is very possible that the performance of mystery plays in the streets and squares of medieval towns had the incidental effect of awaking the consciousness of their spectators to the special qualities of urban space. Then Serlio (following Peruzzi, whose sketches he must have copied)[16] includes in his treatise on architecture scenes for comedy, 4, tragedy and satire, the first two of which consist of streets of palaces.[17] Earlier, but less well known, are certain Laurana paintings which Krautheimer has convincingly interpreted as scenes for comedy and tragedy.[18] And once at least a town, or to be exact half a town, was actually built in the theatre—when Scamozzi finished Palladio's Teatro Olimpico after Palladio's death, adding the seven vistas which lead from the stage into the background. Primarily, no doubt, these vistas were exercises in perspective; but Scamozzi was the designer of an ideal town and may well have thought this a good opportunity of erecting the model of one.[19]

[11] Even in the fifteenth and sixteenth centuries allegorical works take their imagery from the city, e.g. Matteo Palmieri's *Città di Vita* (between 1455-1467). Cf. M. Rooke, 'Libro del Poema Chiamato Città di Vita' in *Smith College Studies in Modern Languages*, Vol. VIII, Northampton, Mass., 1926-27, p. vii, ff. and Bartolommeo Delbene's *Civitas Veri* which though probably written round about 1585 was not published until 1609. The latter, being really an allegory of Aristotle's *Nicomachean Ethics*, was profusely illustrated. The plan of the *City of Truth* clearly derives from a medieval representation of the *Civitas Dei* and might also have been influenced by the *Tabula Cebetis* (for discussion of Delbene see Frances A. Yates, *The French Academies of the Sixteenth Century*, London 1947, p. 111 ff.). I am greatly indebted to Dr. A. Noach for drawing my attention to Delbene. The illustration on p. 90 is taken from Delbene.

[12] cf. W. Braunfels 'Italienische Stadtbaukunst im Mittelalter und der Begriff der Civitas,' in *Beiträge zur Kunst des Mittelalters*, Berlin 1950.

[13] Isidore of Seville, *Etymologia*, IX, IV; XV, II, 2 ed. Migne, *Patr. Lat.* Vol. 82.

[14] See e.g. the elaborate and solemn foundation charters as published e.g. in *Roles Gascons* and A. V. Mortet, *Recueil de textes relatifs à l'histoire de l'architecture et à la condition des architectes en France au moyen âge*, Paris 1911, 1929.

[15] This statement is repeated several times in Thomas' work, e.g. in *De regimine principum* I,1 and *Summa Theologica*, Q.91, art. 2. I am dealing with Thomas' possible influence more fully in a forthcoming paper on 'The Ideal City in the Middle Ages.'

[16] R. Krautheimer, 'The Tragic and Comic Scene of the Renaissance,' *Gazette des Beaux Arts*, 6 ser. Vol. 33, New York 1948, p. 338. Cf. P. Zucker and H. Willich, *Die Baukunst der Renaissance in Italien*, Handbuch der Kunstwissenschaft, Berlin, p. 216. Zucker also suggested that Peruzzi's designs derived from Bramante, who would thus be the inventor of Renaissance stage design.

[17] S. Serlio, *Libro Secondo di Perspettiva*, Venice 1537, p. 26 ff.

[18] Krautheimer op cit., lately this problem was discussed by P. Sanpaolesi in *Bolletino d'Arte* 1949.

[19] Krautheimer op. cit. p. 328 has already drawn attention to the connection of stage design and theory of perspectives as they occur in architectural treatises, the first as part of the latter.

Another extra-architectural activity which may well have played a part was the art of painting. In pictures and frescoes, as also in quattrocento intarsia, townscapes frequently occur both as background and as setting,[20] demonstrating to architects and others the possibility of spatial unity and formal coherence in the planning of actual towns, 5 and 6.

the architects

The Renaissance architects who treat of town planning are headed by Alberti. In fact the publication in printed form of the *Dieci Libri* in 1484[21] is a milestone in the history of town planning. Although Alberti models his treatise on Vitruvius, what he has to say on this subject goes far beyond the Roman author and constitutes the first expressed appreciation of the æsthetic qualities of urban space. A town, he insists, should be beautiful: '. . . a City is not built wholly for the sake of Shelter, but ought to be so contrived, that besides more civil Conveniences there may be handsome Spaces left for Squares, Courses for Chariots, Gardens, Places to take the Air in, for Swimming, and the like, both for Amusement and Recreation.'[22] Even when, in the following passage, he pretends utilitarian considerations, his real concern is obviously with æsthetic questions:

> 'To conclude, such should be the Ways out of the City; short, strait and secure. When they come to the town, if the City is noble and powerful, the streets should be strait and broad, which carried an Air of Greatness and Majesty; but if it is only a small Town or a Fortification, it will be better, and as safe not for the Streets to run strait to the Gates; but to have them wind about sometimes to Right, sometimes to the Left, near the Wall, and especially under the Towers upon the Wall; and within the Heart of the Town, it will be handsomer not to have them straight, but winding about several Ways, backwards and forwards, like the Course of a River. For thus, besides that by appearing so much the longer, they will add to the idea of the Greatness of the Town, they will likewise conduce very much to Beauty and Convenience, and be a greater Security against all Accidents and Emergencies. Moreover this winding of the streets will make the Passenger at every Step discover a new Structure, and the Front and Door of any House will directly face the Middle of the Street; and whereas in larger towns even too much Breadth is unhandsome and unhealthy, in a small one it will be both healthy and pleasant, to have such an open View from every House by Means of the Turn of the Street. . . . But further; in our winding Streets where will be no House but what, in some Part of the Day will enjoy some Sun; nor will they ever be without gentle Breezes, which whatever Corner they come from will never want a free and clear Passage; and yet they will not be molested by stormy blasts, because such will be broken by the turning of the Streets. Add to all those advantages, that if the Enemy gets into the Town, he will be in Danger on every side, in Front, in Flank, and in Rear, from Assaults from the Houses.'[23]

Alberti is much less explicit about squares than he is about

[20] The earliest townscape appears to be the one forming the setting for Lorenzetti's fresco 'The Good Government' in Siena.

[21] The manuscript was finished most likely in 1450. Cf. R. Wittkower, *Architectural Principles in the Age of Humanism*, London 1950, p. 32.

[22] L. B. Alberti, op. cit., IV/III quoted from *The Architecture of L. B. Alberti . . . of Painting and of Statuary*, translated into Italian by C. Bartoli and into English by James Leoni, London 1755.

[23] Alberti op. cit. IV, V, that this division of streets into straight and curved derives probably from Aristotle *Politics* VII, 10, cannot be considered as an obstacle to our interpretation.

2

3

town imagery

Towns, gates and towers were from ancient times much favoured as images. Poets and philosophers used them frequently as vehicles of allegory. In the first century A.D., Cebes, a Roman philosopher, described a painting he pretends to have seen in a temple and which represented the way of man from his entry into life past all the pitfalls which beset him to the end in final happiness. This description has often been represented pictorially. 2 *is an engraving by Holbein originally designed for Erasmus's Latin edition of the New Testament, but later used for various other title-pages, as for example for Strabo's* Geography. *Similarly, in Christian terms, the Heavenly Jerusalem and the City of the Saints as opposed to the Earthly City, as elaborated by Saint Augustin in his* City of God, *was frequently represented in mediæval manuscripts.* 3 *comes from a fifteenth century manuscript in the Bibliothèque Nationale in Paris (MSS Franc.* 18 *and* 19 *f.* 3 *v), illuminated by Maître François. It represents the Earthly City divided into seven parts. Each contains two scenes representing one virtue and the corresponding vice; above is the City of Saints equally surrounded by walls and towers.*

streets, and when it comes to the relationship of streets and squares he neither suggests any specific form of layout nor offers any general principles. In fact he is only interested in the components of the town considered separately—never in relationships. And—although perhaps he stresses the connection of building and vista more than Alberti did—the same is true of Palladio, as a few excerpts from the *Quattro Libri* will prove. He advocates within the City wide streets:

> 'And it being likewise evident, that broad Streets are more lightsome, and that one Side of such a Street is therefore less eclipsed by the opposite Side, the Beauty of Churches and Palaces must needs be seen to greater Advantage in large than in narrow Streets, whence the Mind is more agreeably entertained, and the city more adorned.'

'Adornment' is what the architect has in mind. Then follows the Vitruvius prescription *re* winds.

> 'Concerning the Principal Squares, Markets, and open Places of a City, and the Structures or Buildings which ought to be made about them.
>
> 'These great and open Places in a City besides the Conveniences of Walking, discoursing, and contracting Bargains, are very ornamental; as when there is a beautiful and spacious Plance of the Head of a Street, from whence you have the Prospect of some curious Edifice, and particularly of some Church. . . .
>
> 'To these (the principal squares) the Prince's Palace, or that for the Assembly of the States, according as the Country is either a Monarchy, or a Republic, ought always to be joined. The Exchequer, or the Publick Treasury where the Money and other valuable Effects of the Publick are deposited, and the Prisons, ought to join them likewise.'[24]

(The last sentence makes it clear that the general layout derives from Plato.[25])

In short, Alberti and Palladio both regard the city as an object of necessity which can, perhaps even should, be improved visually; neither of them, curiously enough, evolved an approach to the problem analogous to their approach to the problem of the single building (as analysed by Rudolph Wittkower)[26]; neither of them seems to have been aware of that conception of the city as a spiritual entity which, as we have seen, was common to the ancients and to writers of the Middle Ages. And their architect followers, like them, were concerned only with small units—with a single building and its surroundings, a single street or square, or at most with a single group of buildings—at least as far as visual effect was concerned. Not, of course, that there is any lack of planned towns designed by architects, from Palma Nuovo onwards as we shall see later. Many of these have interesting plans—on paper; most of them are of interest to the student of military architecture.

[24] A. Palladio, III/12 and 16 quoted from *The Four Books of Architecture*, translated by I. Ware, London 1738.
[25] Plato, *Laws* VI, 778 A and B, deals with the arrangements of buildings.
[26] R. Wittkower, op. cit.

pictorial townscape

4

5

***6**, a detail from a fresco by Masolino,* The Healing of Tabitha *of* 1425, *in the Brancacci Chapel in Florence, is one only of many where a contemporary Italian townscape furnished the setting for a biblical scene. These paintings may well have drawn people's attention to the existence of an urban atmosphere which is something different from a mere assembly of buildings. In secular allegorical scenes representations of this kind can be found even earlier, as in the case of Lorenzetti's* Good Government *in Siena of* 1339 *or with even greater delight in details and perspective as in* 5. *This is an allegory of Mercury and the Occupations belonging to his reign and incidentally gives a street scene in Florence in* 1465. 4 *is a stage design for a comedy from Serlio's Second Book. Serlio in this was not an innovator, he followed an established Renaissance precedent for stage settings. Such designs, as also actual dramatic performances in the squares of Italian towns, may well have contributed to making people aware of the existence of townscape.*

6

But—and this is the decisive point—evidence of a strictly visual approach is scarcely to be found in any of them. Nor for that matter is any evidence of such an approach to be found in their literary works. As we shall see—and to an age as acutely conscious of the visual qualities of the urban environment as ours it seems an astonishing fact—with the single exception of Alberti no theorist of town planning allowed any importance at all to the visual relationships of the constituents of the town's plan.

Filarete and the ideal city

Very soon after Alberti wrote his treatise, and actually before it was printed, Filarete wrote his. It was less successful than Alberti's, and in fact was not printed until the nineteenth century (and even then not *in toto*).[27] Nevertheless, the fact that Matthias Corvinus, King of Hungary, ordered a Latin translation shows that Filarete's *Trattato d' architettura* did not remain altogether unnoticed.[28]

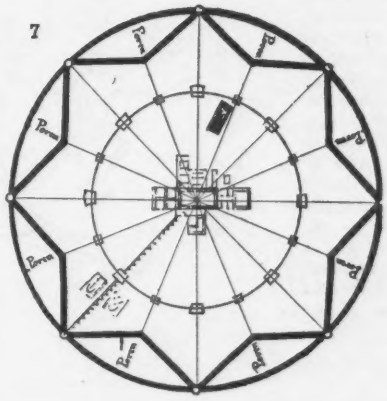
Filarete's book differs from Alberti's in that it is not a straightforward architectural treatise, divided into a number of books and chapters dealing with straightforward architectural questions: it is something between that and an allegorical novel like Francesco Colonna's rather later *Hypnerotomachia Poliphili* (1499, the allegories of which, incidentally, are frequently architectural). And Filarete goes beyond Alberti in suggesting to the prince to whom the book is addressed that he should build a whole new city.

In doing this Filarete, although he certainly mentions Vitruvius's story of Alexander and his architect, may possibly have been inspired by the dictum of Thomas Aquinas that the founding of cities was one of the duties of kings.[29] If one accepts this explanation his book falls into place conveniently enough between the medieval *Specula Principum* and the *Cortegiano*, written about half a century later, in which Castiglione urges his prince not only to 'make great buildings both for his honour in life, and to give a memorie of him to his posteritie' but also to build whole cities. ('So did Alexander the Great in like manner, who not satisfied with the fame that he got him worthily for subduing the worlde with martiall prowess, but built Alexandria in Egypt, Bucephalia in India, and other cities in other Countries.'[30]) But what was Filarete's underlying reason for wanting to create a new city? Did he simply need a framework for the various types of building he desired to discuss, or was the conception of the city as a whole, a complete entity, uppermost in his mind?

A consideration of the shape which Filarete intended to give to his new town may help towards an answer. All that Filarete actually says about this shape is that it consists of two squares laid one above the other in such a way that their angles are equidistant. The two principal codices of his treatise contain three diagrams, 7, 8, 9, of Sforzinda (as the town was to be called, after Sforza).[31] All three show the eight-pointed star which one would expect from Filarete's description; in two cases the star is circumscribed by a single circle, in the third by a double circle. Two drawings are more like diagrams than town plans: only the third gives any idea of the intended layout. The search for the origin of this geometrical scheme takes us deep into magic and astrology. On the face of it this is perhaps an unlikely place in which to look for the origin of a Renaissance city plan, but Filarete's interest in both arts is well attested by passages in his treatise. In Book I, for example, he assumes in a perfectly matter of fact way the influences of the stars and planets on the talents of men.[32] Then in Book XV, in describing the garden of the prince, he says that the square of the inner garden was 'made into a circle'—plainly an example of 'squaring the circle.'[33] This garden, we learn later, was divided like a map of the earth, and contained high mounds from which all the water in the canals flowed and to which it all returned—a strange image which takes on a new significance when we assume that the canals stand for the veins and arteries of a man, so that here we may have that identification of man with the universe[34] (in this case represented microcosmically) which played so large a part in medieval and Renaissance thought.[35]

There is a counterpart of Filarete's symbolic garden in the *Hypnerotomachia*, where Poliphilus sees four triumphal cars, which clearly represent the four elements—earth, fire, air and water, and then a fifth circling round an altar in the centre of a piece of ground divided into squares.[36] One interpreter has grouped these ideas into a diagram comprising a square whose corners stand both for the four elements and for the four Aristotelian qualities—dryness, humidity, cold and heat.[37] Here we seem to be getting near Sforzinda, and another somewhat later diagram representing the four elements and the four qualities is indeed identical with the plan of Filarete's ideal city. It occurs in a commentary on Sacro Bosco by Clavius, published in 1607.[38] It consists of two

7



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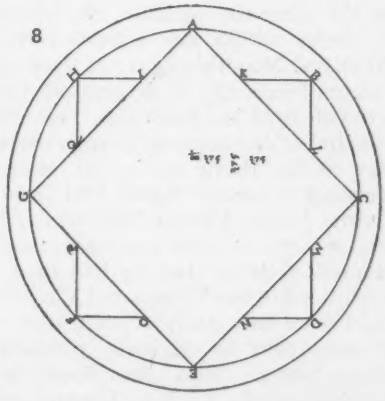


Filarete

7 is the final plan of Sforzinda, Filarete's ideal town. Its outline clearly derives from two superimposed squares, as they can be seen in 8 which is a diagram more than anything else, a diagram which, moreover, comes from a significant 'magic' sign. The points of the stars in 7 are connected by canals with the Fora in the centre, the gates by roads. The absence of details in the arrangement of streets and houses is noticeable; only a circle of squares half-way along the roads and canals is indicated and very few buildings.

[27] W. v. Oettingen, *Antonio Averlino Filarete's Tractat über die Baukunst*, Vienna 1890, publishes part of the text in Italian, part in German translation, some in both languages and some not at all. M. Lazzaroni-A. Munoz, *Filarete*, Rome 1908, gives a synopsis of the contents.

[28] For details and descriptions of the manuscript codices see v. Oettingen op. cit. p. 7 ff.

[29] Thomas Aquinas, *De Regimine Principum*, I, 13.

[30] Baldassare Castiglione, *The Book of the Courtier* translated by Sir Thomas Hoby, 1561, quoted from Everyman ed.; London 1928, p. 288 f.

[31] The illustrations of the *Codex Magliabecchianus* are reproduced in Lazzaroni-Munoz op. cit. and a few diagrams can be found in v. Oettingen op. cit.

[32] Oettingen op. cit., p. 60 f.

[33] Lazzaroni-Munoz op. cit. p. 251, v. Oettingen op. cit. p. 201.

[34] This is not so absurd as it might sound since in the first book Filarete likened buildings to the human body.

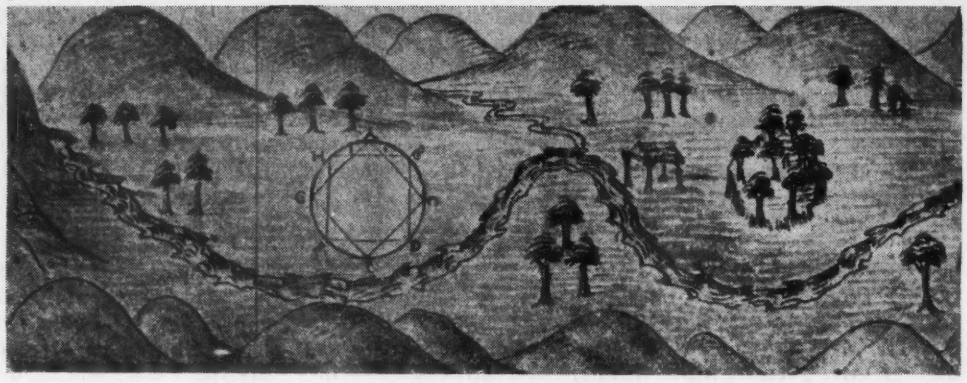
[35] See Adolf Meyer, 'Wesen und Geschichte der Theorie vom Mikro- und Makrocosmos,' *Berner Studien zur Philosophie und ihrer Geschichte*, Vol. XXV, Berne 1900. Cf. E. Cassirer *Individuum und Kosmos*, Berlin 1927.

[36] Francesco Colonna, *Hypnerotomachia Poliphili*, Venice 1499. Facs. ed. Methuen and Co., London 1904, Book III.

[37] L. Fierz-David, *The Dream of Poliphilo*, Bollingen series XXV, New York 1950, p. 115 ff., particularly pp. 124-125.

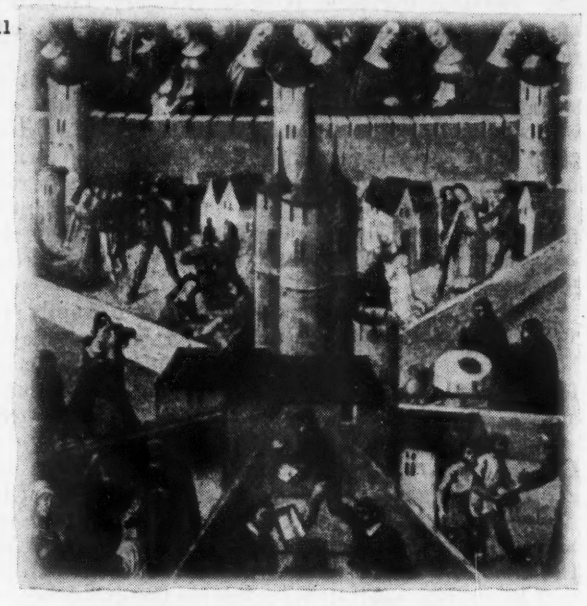
[38] Christophorus Clavius *In Sphaeram Joannis de Sacro Bosco Commentarius*, Lugduni 1607, p. 33. Sacrobosco, sometimes called Holywood or Halifax (e.g. D.N.B.), a thirteenth century philosopher (probably English) writer of the *Sphere*, the most frequently used textbook on astronomy and cosmography until the seventeenth century (Lynn Thorndyke, *The Sphere of Sacrobosco and its commentators*, Chicago 1949, p. 1 f.).

9



10

11



Filarete and his models

The principal manuscript codices of Filarete's Trattato d' Architettura *are illustrated by decorative pieces, particularly the Latin codex now in the Marciana in Venice, written for King Matthias Corvinus of Hungary, but also by pictures of buildings described in the treatise itself. The draughtsman is not known, but he must have worked in close contact with the architect. This curious diagram of superimposed squares floating in a landscape comes from the Codex Magliabecchianus in Florence and affords additional proof to our contention that Filarete was not moved by architectural or planning considerations when devising the layout of Sforzinda,* 9. 10 *comes from Villard de Honnecourt's famous sketch-book of about* 1230-35 *and is his version of the Wheel of Fortune, an allegory of the uncertainties of fortune, which was often represented in the Middle Ages. The spokes of the wheel resemble the spoke-like arrangement of the streets and canals of Sforzinda so much that it does not seem impossible to assume an influence of such diagrams on Filarete.* 11 *is part of yet another representation of Saint Augustine's Earthly City (Bibliothèque St. Genéviève, MS Français* 246, *of ca.* 1475) *probably coming from the workshop of Maître François. This time it has a tower in the centre. That Filarete originally planned such a tower in the centre of Sforzinda—later we will find a similar one in Christianopolis,* 20*—connects his plan even closer with such allegorical representations as those of St. Augustine's city.*

squares laid across each other, the corners of the one representing the elements and of the other the qualities, the whole encompassed by a double circle; within are indicated the combinations of these eight items. Now this figure in itself is an old magic sign, which occurs frequently in decoration, for instance in the frescoes in the choir of St. Anastasia, Verona, in the pavement of the cathedral of the same city, in frescoes by Girolamo de Milano now in the Brera and so on, while right back in the sixth century a similar figure had been employed to frame two Virtues in the *Vienna Dioscurides*.[39] It seems possible that Filarete knew of this last mentioned use of the figure, for he himself tells us that he had made a thorough study of representations of the Virtues and Vices.[40] He may indeed have derived from this study other features of Sforzinda, such as the tower that he originally planned for the centre of the town; a tower is also often found in the centre of a representation of the Civitas Terrena of St. Augustine's *Civitas Dei*, where a circular town is divided into compartments each of which contains a Virtue and the corresponding Vice, 11. It may have been from some such representation, or possibly from the common image of the Wheel of Fortune, 10 (also closely connected with the concept of Virtues and Vices), that Filarete took the spoke-like arrangement of the streets and canals of Sforzinda.[41] It is noteworthy that his House of the Virtues and Vices as given in one of the principal codices[42] also takes its plan from the Civitas Terrena.

Eventually Filarete seems to have dropped his central tower and substituted a system of *fora*. This is in no way organically connected with the radiating streets, however; the latter lead to the city gates, 7, situated at the points where the sides of the two squares cross, while the canals which alternate with them lead to the points of the star. Possibly one can interpret the canals as the rivulets which flow from the tower of wisdom. The central tower or building which appears again in later plans as for instance in Fra Gioconda, Campanella and Andreae's designs for towns and takes on the shape of a steep hill in Delbene's *Civitas Veri* might have found its way independently as a representation of the Tower of Wisdom, another medieval concept into these plans.[43]

the influence of the theorists

Notwithstanding the philosophical and astrological origin of Filarete's plan, it had, as is well known, a tremendous influence on Italian ideal cities. For some time these remained on paper, 12, 13; then in 1593 Scamozzi's Palma Nuova arose as the first to achieve realization.

The story of the ideal city of the Renaissance has been told so often, and the plans of various Italian, French and German architects so often reproduced, that there is no need to go over the ground again here.[44] It is worth remarking, however,

[39] Two Virtues are employed to appear as retinue of the Princess Anicia Juliana in the dedicatory picture. Cf. A. Katzenellenbogen, *Allegories of the Virtues and Vices in Mediaeval Art*, London 1939, p. 28.

[40] cf. E. Panofski, *Herkules am Scheidewege*, Studien der Bibliothek Warburg, Leipzig 1930, Exkurs III, p. 187 ff.

[41] The Wheel of Fortune is a mediæval allegory of the vicissitudes of fortune.

[42] *Codex Marciana*, Venice, fol. 139 v, 140 v.

[43] Whether this passage from Aristophanes *Birds* (1004-1009) which, however, is very difficult and obscure and open to various interpretations, exercised any influence on Filarete it is impossible to decide. How obscure the text is can best be judged from the fact that it was (by Erdmann, 'Hippodamos von Milet,' *Philologus*, Vol. XLII, p. 193) and still frequently is used as an example for a description of Hippodamos system:

'With a straight rod I measure out, that so
The circle may be squared; and in the centre
A market-place; and streets be leading to it
Straight to the very centre; just as from
A star, though circular, straight rays flash out
In all directions . . . .'

[44] Besides Lavedan *L'Histoire de l'Urbanisme*; *Les Temps Modernes*, Paris 1941. J. Gantner, *Die Grundform der Europäischen Stadt*, Wien 1928. A. E. Brinckmann, *Stadtbaukunst*, Handbuch der Kunstwissenschaft, Berlin 1920, p. 40 ff. A very full account profusely illustrated can be found in G. Münter, 'Die Geschichte der Idealstadt,' *Städtebau*, Vol. 24, Berlin 1929, pp. 249 ff. and 317 ff.

that the influence of Sforzinda survived right into the baroque period; obvious examples are the radiating streets at Versailles, the *Rond Points* along the Champs-Elysées, the Place de l'Etoile, and the 'systematization' of the three streets leading out of the Piazza del Popolo in Rome. On the other hand many plans continued to be based on the chequerboard system, in its Roman rather than its Greek form, 15, 16. This system may well have been given a new lease of life by the general Romanizing tendency of the time. In Philip II's *Royal Ordinances concerning the laying out of the New Towns*, issued from the Escorial in 1573, the influence of Vitruvius commingles with that of Plato and Aristotle, as the following passage illustrates[45]:

> 'The chosen site shall be on an elevation; healthful. It shall be open to the north wind. If on the coast care is to be taken that the sea does not lie to the south or west of the harbour. In the case of a sea coast town the main plaza which is to be the starting point for the building of the town, is to be situated near the landing place of the port. In inland towns the main plaza should be in the centre of the town. . . . The four corners of the plaza are to face the four points of the compass, because thus the streets diverging from the plaza will not be directly exposed to the four principal winds. . . . Immediately afterwards (after the church) the plaza and site are to be assigned for the Royal and Town Council House, the Custom-House and Arsenal which is to be close to the church and port so that in case of necessity one can protect the others. . . . Inland towns . . . on the banks of a navigable river . . . build on the north side if possible. In order that entries of these assignments be better made, a plan of the town is always to be made in advance.
>
> 'Settlers are to endeavour as far as possible to make all structures uniform, for the sake of the beauty of the town. . . .'

Here all the points selected for emphasis are those which seemed important to Plato and Aristotle too. The insistence on uniformity in the houses, for example, is a direct echo of Plato's prescription of the *Laws* (779 A and B). It is a point which is taken up again, three generations later, by Descartes, in a passage instinct with his rationalism and the absolutism of his age:

> 'Those ancient cities which, from being at first only villages, have become, in course of time, large towns, are usually but ill laid out compared with the regularly constructed towns which a professional architect has freely planned on an open plain; so that although the several buildings of the former may often equal or surpass in beauty those of the latter, yet when one observes their indiscriminate juxtaposition, there a large one and here a small, and the consequent crookedness and irregularity of the streets, one is disposed to allege that chance rather than any human will be guided by reason, must have led to such an arrangement. And if we consider that nevertheless there have been at all times certain officers whose duty it was to see that private buildings contributed to public ornament, the difficulty of reaching high perfection with but the materials to operate on, will be readily acknowledged.'[46]

Here, once more, it is an abstract idea—in this case the idea of regularity, valued not for any visual quality but because it is a sign of the imposition of human will—which counts.

[45] From a manuscript in the National Archives in Madrid No. 3017 published in *Hispanic American Historical Review*, Vol. 4, Baltimore 1921, p. 745 f. translated Vol. 5, 1922, p. 249 f.

[46] R. Descartes, *Discours de la Methode* . . . Leyden 1637 quoted from *Discourse on the Method* tr. by John Veitch, Edinburgh 1850, p. 54.

the utopias

Thomas More, like Plato a philosopher, had to furnish his model state with towns. His description of Amaurot, the capital of Utopia, is well known, but will stand requotation in our present context:

> 'He that knows one of their towns, knows them all, they are so like one another, except where the situation makes some difference. . . .
>
> 'It (Amaurot) lies upon the side of a hill, or rather a rising ground; its figure is almost square, for from the one side of it, which shoots up almost to the top of the hill, it runs down in a descent for two miles to the river Anider; but it is a little broader the other way that runs along by the bank of that river. . . .
>
> 'The inhabitants have fortified the fountain head of this river, which springs a little without the town; that so if they should happen to be besieged, the enemy might not be able to stop or divert the course of the water, nor poison it; from thence it is carried in earthen pipes to the lower streets; and for those places of the town to which the water of the small river cannot be conveyed, they have great cisterns for receiving the rainwater, which supplies the want of the other. The Town is compassed with a high and thick wall, in which there are many towers and forts; there is also a broad and deep dry ditch, set thick with thorns, cast round three sides of the town, and the river is instead of a ditch on the fourth side. The streets are very convenient for all carriages and are well sheltered from the winds. Their buildings are good, and are so uniform, that a whole side of a street looks like one house. The streets are twenty feet broad; there lie gardens behind all their houses; these are large but enclosed with buildings that on all hands face the streets; so that every house has both a door to the street, and a back door to the garden.'[47]

At first sight this is an astonishing description for a political philosopher without any architectural background. But is it in fact an architect's vision? Are the ideas embodied in it More's own? Analysis shows that it is by no means as original as it looks. The description of the site, for instance, derives from Aristotle—'The site of the city itself we must pray that fortune may place on sloping ground'[48]—and so does the passage about water, springs and pools. Then the account of the houses repeats almost word for word the

[47] Thomas More, *De optimo reipublicae statu deque nova insula Utopia*, Louvain, 1516, quoted from Ch. M. Andrews *Ideal Empires and Republics*, New York 1901, p. 165 f.

[48] *Politics* VII, 10.

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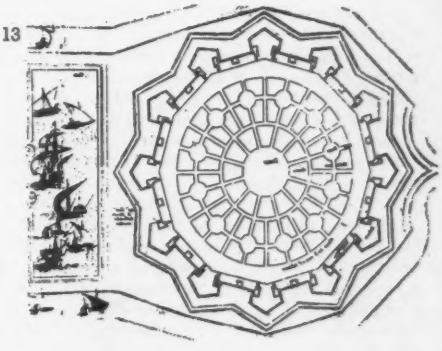
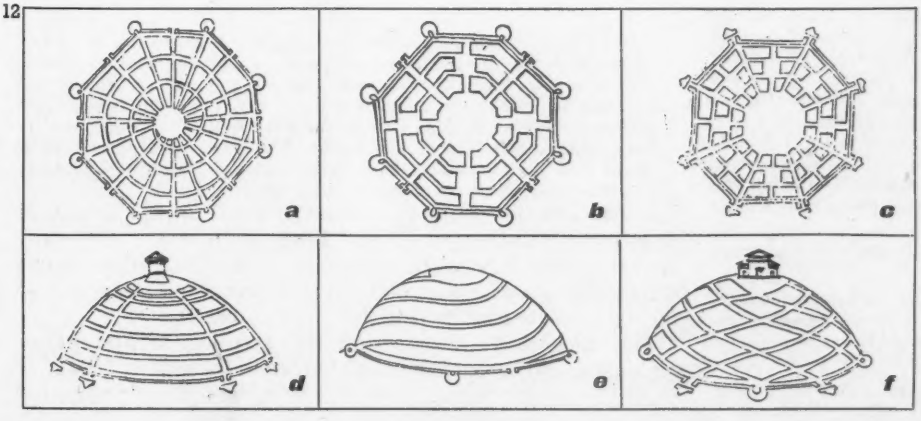


Filarete's progeny

12



Filarete's plan of Sforzinda reveals, in spite of its 'magic' origin, all the longings of the Renaissance for an all-round harmony. It had for this reason a very large progeny, although the treatise was never printed before the last century. Moreover, the star-shape suited the requirements of the fortification engineers. An example can be seen in 13, *which comes from Francesco di Marchi's* Military Architecture *from the second half of the sixteenth century. The tendency here—a tendency yet more obvious in the plans from Francesco di Giorgio Martini's late fifteenth century* Treatise on Civil and Military Architecture, 12—*is to draw plans as an exercise in pattern making. a, b, c, are plans for towns in the plain. The variations in their streets and squares are not the outcome of functional differences but simply playful variations of patterns. d, e, f, are plans for what is called 'Hill Towns.' They are developed on the same principle.*

passage in Plato's *Laws* which had also, as we have seen, inspired Philip II's *Ordinances*: 'All the houses must have good walls, built regularly and in a similar style, facing the roads so that the whole city will have the form of a single house.'[49] Other features are simply what More had himself seen. The laid-on water supply existed in London already; it must have been one of the most modern in Europe and More was no doubt trying to give it publicity. In the same way the possession of a garden by each house, so frequently hailed as an anticipation of garden cities, is taken from medieval practice, according to which (as foundation charters show) sites generally comprised a plot for the house and another for the garden. Far from being a marvellous vision, More's Amaurot is little more than a concoction of other writers' ideas and of features that existed in his own time.

The second Utopia which concerns us here is Tommaso Campanella's *Città del Sole*. Compared with More's tidy exposition of the charms of benevolent dictatorship this is an obscure work. Campanella's city—not merely an *urbs* in the purely physical sense but a *civitas* in the sense of 'state'—is clearly the conception of a philosopher intent on producing something more than just a workable plan; like Filarete, Campanella seeks to give his plan meaning and significance:

'The greater part of the city is built upon a high hill, which rises from an extensive plain, but several of its circles extend for some distance beyond the base of the hill, which is of such size that the diameter of the city is upwards of two miles, so that its circumference becomes about seven. On account of the humped shape of the mountain, however, the diameter of the city is really more than if it were built on a plain.

'It is divided into seven rings or huge circles named from the seven planets, and the way from one to the other of these is by four gates, that look towards the four points of the compass. Furthermore, it is so built that if the first circle were stormed it would of necessity entail a double amount of energy to storm the second, still more to storm the third; and in each succeeding case the strength and energy would have to be doubled; so that he who wishes to capture that city must as it were storm it seven times. For my own part, however, I think that not even the first wall could be occupied, so thick are the earthworks and so well fortified is it with breastworks, towers, guns and ditches.

'When I had been taken through the northern gate (which is shut with an iron door so wrought that it can be raised and let down, and locked in easily and strongly, its projections running into the grooves of the thick posts by a marvellous device) I saw a level space of seventy paces wide between the first and second walls. From hence can be seen large palaces all joined to the wall of the second circuit, in such a manner as to appear all one palace. Arches run on a level with the middle height of the palaces, and are continued round the whole ring. There are galleries for promenading upon these arches, which are supported from beneath by thick and well-shaped columns, enclosing arcades like peristyles, or cloisters of an abbey.

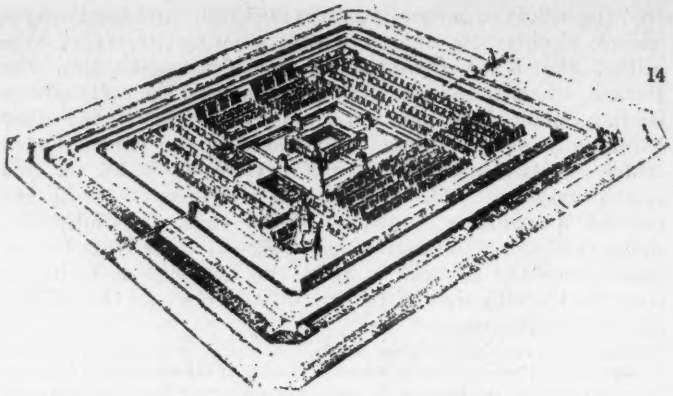
'But the palaces have no entrances from below, except on the inner or concave partition, from which one enters directly to the lower parts of the building. The higher parts, however, are reached by flights of marble steps, which lead to galleries for promenading on the inside similar to those on the outside. From these one enters the higher rooms, which are very beautiful, and have windows on the concave and convex partitions. These rooms are divided from one another by richly decorated walls. The convex or outer wall of the ring is about eight spans thick; the concave three; the intermediate walls are one or perhaps one and a half. Leaving this circle one gets to the second plain, which is nearly three paces narrower than the first. Then the first wall of the second ring is seen adorned above and below with similar galleries for walking, and there is on the inside of it another interior wall enclosing palaces. It has also similar peristyles supported by columns in the lower part, but above are excellent pictures, round the ways into the upper houses. And so on afterwards through similar spaces and double walls, enclosing palaces, and adorned with galleries for walking, extending along the outer side and supported by columns till the last circuit is reached, the way being still over a level plain. But when the two gates, that is to say those of the outmost and the inmost walls, have been passed, one mounts by means of steps so formed that an ascent is scarcely discernible since it proceeds in a slanting direction, and the steps succeed one another at almost imperceptible heights. On the top of the hill is a rather spacious plain, and in the midst of this there rises a temple built with wondrous art.'[50]

Then follows the account of the temple, from which a short extract may be quoted:

'Nothing is seen over the altar but a large globe upon which the heavenly bodies are painted and another globe upon which there is a representation of the earth. Furthermore, in the vault of the dome there can be discerned representations of all the stars of heaven from the first to the sixth magnitude, with their proper names and power to influence terrestrial things marked in three little verses for each. There are the poles and greater and lesser circles according to the right latitude of the place, but these are not perfect because there is no wall below. They seem, too, to be made in their relation to the globes on the altar. The pavement of the temple is bright with precious stones. Its seven golden lamps hang always burning, and these bear the names of the seven planets.'[51]

Then the description goes on to say that all the above-named rings carry paintings of all the things of the earth—animals, flowers, herbs, the mountains and rivers, but also ancient heroes, the apostles and Christ, great inventors, the sciences, the arts, mechanical and liberal, and so on.

The allegorical purpose and the astrological and philosophical significance of the plan, hidden in the case of Filarete's



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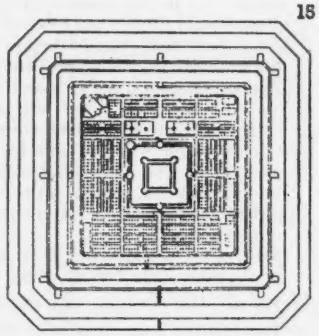
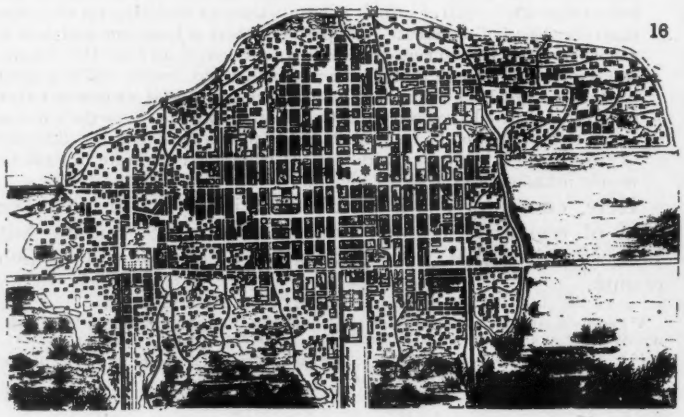


15

chequerboard plans

In spite of the overwhelming influence of Filarete's star-shaped plan during the Renaissance and after, the chequerboard plan held its own. Dürer's plan, 15, *like many others appears to derive from the Roman prototype rather than from the Greek. The reconstruction of a bird's-eye-view,* 14, *done after drawings by Dürer in his* Etliche underricht zur befestigung der Stett, Schloss und flecken, *Nuremberg,* 1527, *proves how difficult it is from a functional point of view to arrange mediæval European houses within a system devised for different building types and requirements altogether, and how utterly pointless such a plan is from the functional point of view. Perhaps it would be true to say that more towns were actually built on the chequerboard pattern than on the central pattern. This is certainly true of the many Spanish colonies in Mexico,* 16—*seen here in a plan of* 1628 *by Vingboons—and elsewhere outside Europe.*



16

[49] *Laws* 779, A, B.

[50] T. Campanella, *Campanella's City of the Sun* (translated by Thomas W. Halliday) in H. Morley, *Ideal Commonwealth*, London 1885, p. 217 f.

[51] op. cit. p. 220.

city, is explicit in Campanella's. The City of the Sun represents an attempt to reconcile astrology with Christianity, the whole life of the citizens being regulated by the movements of the heavenly bodies on the ground that 'the true oracle of Jesus Christ is by the signs in the sun, in the moon and in the stars.'[52] It is therefore not surprising that its plan should be based on the Copernican diagram, 17, of the seven planets circling round the sun. Admittedly, Dante's *Purgatorio*, 18, and the *Tabula Cebetis* are other possible sources; but the fact that Campanella was an active supporter of Galileo and the new astronomy,[53] taken in conjunction with the name which he gave his city, leaves little doubt which was the most important.

Third of the Utopias comes Andreae's *Christianopolis*.[54] Third, because though published before the *Città del Sole* it was written later; and there is evidence that Andreae was familiar with Campanella's work, thanks to the good offices of his friend Adami, who held the manuscript and published it in 1623. As it happens, not only the influence of Campanella, but also that of More, may be detected in many passages of Andreae's text:

> 'Its shape is a square, whose side is seven hundred feet, well fortified with four towers and a wall. It looks, therefore, toward the four quarters of the earth. Eight other very strong towers, distributed throughout the city, intensify the strength; and there are sixteen other smaller ones that are not to be despised; and the citadel in the midst of the city is well nigh impregnable. Of buildings there are two rows, or if you count the seat of government and the storehouses, four; there is only one market place, but this one is of very high order. If you measure the buildings you will find that from the innermost street being twenty feet in width, the numbers increase by fives even up to one hundred. At this point there is a circular temple, a hundred feet in diameter. As you go forth from the buildings, the intervals, storehouses, and the rows of houses are each 20 feet wide and the wall is 25 feet. All buildings are in three stories, and public balconies lead to these. All this can, however, be better understood from the accompanying plate. All buildings are made of burnt stone and are separated by fire proof walls so that a fire could not do very severe damage. Spring water and flowing water are here in great abundance, supplied partly by artificial means, and partly by nature. Things look much the same all around, not extravagant nor yet unclean; fresh air and ventilation are provided throughout. About four hundred citizens live here in religious faith and peace of the highest order. We shall have something to say about each individual one. Outside the walls is a moat stocked with fish, that even in times of peace it may have its uses. The open and otherwise unused spaces contain wild animals, kept however, not for purposes of entertainment but for practical use. The whole city is divided into three parts, one to supply food, one for drill and exercise, and one for looks.'[55]

[52] op. cit.

[53] J. Kvacsala, *T. Campanella, ein Reformer der ausgehender Renaissance*, Berlin 1909, p. 51 f. See also F. Thomas Campanella, *Apologia pro Galileo* . . . (ed. by Tobias Adami), Frankfurt 1622.

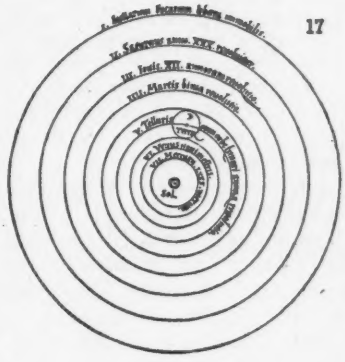
[54] J. V. Andreae, *Reipublicae Christianopolitanae Descriptio*, Argentorati, 1619; *Christianopolis* . . . translated by F. E. Held, New York 1916.

[55] Andreae Book VII, op. cit. p. 149.

Campanella

Campanella believed in the Copernican system of the world, as this had been diagrammatically illustrated in Copernicus' own De Revolutionibus Orbium Coelestium, *Nuremberg* 1543 (*p.* 102), *and so may well have meant the plan of his City of the Sun as a representation of this system*, 17. *It was to rise in seven concentric rings similar to the Mountain of Purgatory in pictorial allegories of Dante and his Divine Comedy. It is one such allegory, painted by Domenico di Michelino in* 1465, *which is illustrated here*, 18, *and which shows Paradise, as a view of Florence on the right, Hell on the left and Purgatory rising in seven steps in the background.*

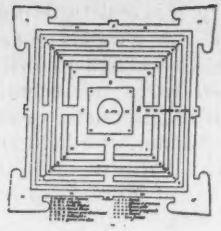
17



18

utopia

Visually Andreae's Christianopolis, *19 and 20, derives mainly from Dürer, as can be seen in* 18, *though conceptionally it follows Sir Thomas More's* Utopia *and similar essays in reforming the world. Although many features may have an allegorical ancestry (the central edifice, e.g.—a church it seems—has a great affinity with Delbene's central mount or Saint Augustine's tower) it is horrifying to think that these barracks were considered worthy abodes for the citizens of the Ideal Commonwealth, and one has to ask oneself whether that is what would happen to mankind had the utopians their way.*



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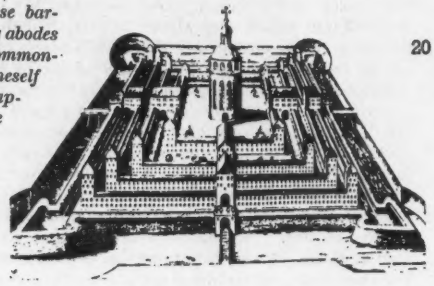


20

The name Christianopolis, 19, 20, alone suggests the chief characteristic of Andreae's text, the mixture of Christian symbolism and Platonic thought. On the one hand, his city incorporates actual existing features as Amaurot does; on the other it is often described (like Filarete's and Campanella's) in obscure terms which can hardly be taken at their face value. (The numbers in the passage quoted may well have a hidden meaning.) Altogether, it is reasonable to assume that Christianopolis was designed first and foremost as a vehicle for philosophical thought—an assumption which takes on added probability if modern scholarship is correct in believing Andreae to have been *the* Rosencreutz,[56] author of the *Chymical Wedding* and founder of the Rosicrucian Fraternity.[57]

the eighteenth and nineteenth centuries

In the later seventeenth century, and throughout by far the greater part of the eighteenth, town planning theory was still ruled by abstract conceptions. At the same time a literary *genre* which had already had some influence on More's *Utopia* became of great importance. This was the voyage, actual or imaginary, to far off lands where happiness, peace and bliss eternal reigned.[58] One excerpt from such a voyage, the description of Salem in the *Account of the Cessares* by Van der Neck (whose real name was J. Burgh) published in 1764,[59] will suffice for our purposes here:

> 'Our chief town is called Salem, to remind us of that peace and union which ought to reign among us. It is laid out in the form of a square, is about a mile on each side, and situated near the middle of our country in a large fertile plain on a moderately high ground: at a distance from woods, marshes, lakes or stagnant waters; but it has a fine stream of clear and wholesome water which at its entrance into the town being divided into several channels, runs through most of the principal streets.
>
> 'This town is as yet but thinly built and inhabited, but is laid out in the following manner. The streets are a mile long, and about thirty yards broad, run quite straight and regular and cross another at right angles. And the name of every street painted in large letters, and fixed up at every corner. The houses are neat and plain and exactly of the same form and size, which makes an agreeable uniformity in all the streets. They are built at some little distance from one another to enjoy a more free air and to prevent accidental fires from spreading their flames to the neighbouring houses. And we allow every house a little spot of ground for a yard, garden and other necessary uses: the whole of this house being about 52 yards in front, and 129 in depth, the houses are low consisting only of two floors, but several rooms on each floor, and are covered on top with a terrace. In the middle of the streets aromatic trees and shrubs are planted.'[60]

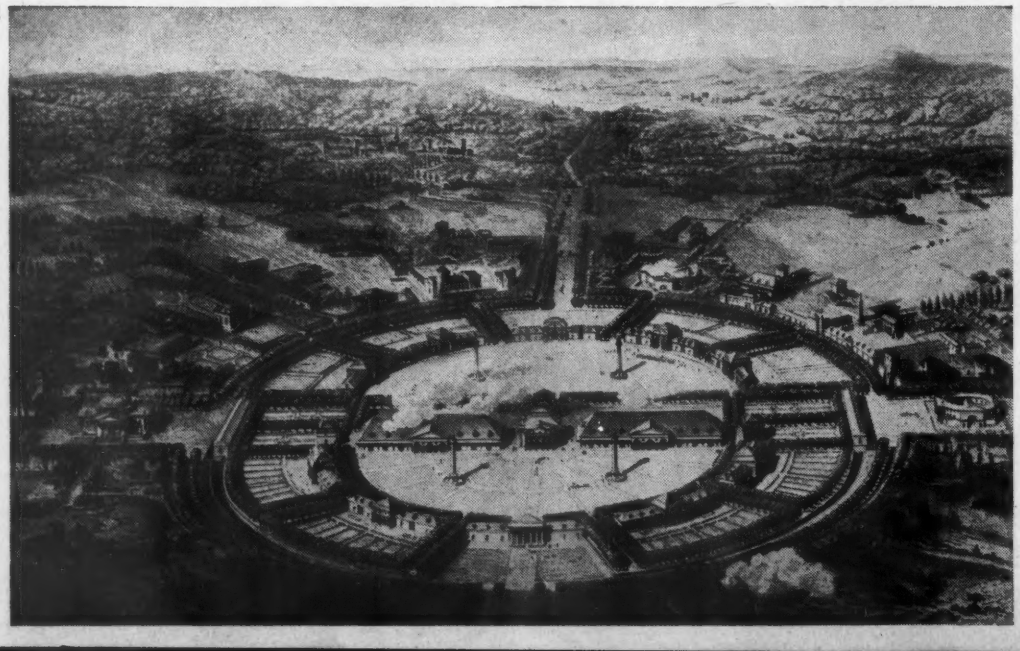
In this the influence of Utopia is patent, but there is very much less liveliness in Salem than there was in Amaurot, and certainly no mystery. A strong utilitarian flavour prevails; improvement and reform are the order of the day; the half-magic conception of the town which has persisted from ancient times is now no more. If in the past, as we have seen, town planning has not been the domain of architects and artists, but rather of philosophers and astrologers, and if town plans have not been devised with strictly æsthetic ends in view, at least they have been devised with the object of facilitating beautiful and harmonious lives for their citizens. But this is the Age of Reason, when 'il ne faut employer le sculpteur et les peintres, que pour conserver la memoire des grands hommes et des grands actions.'[61] Surely the town planners, as we have known them in the past, do not stand a chance. Nevertheless, the whole intricate system of theory was still in existence, if somewhat the worse for wear, at the end of the eighteenth century, when it was demolished violently and finally by C. N. Ledoux[62], 21.

Ledoux was the first theorist to free town planning theory from abstract conceptions. Nevertheless Ledoux, like Filarete,

[56] Curt Seligman, *The Mirror of Magic*, New York 1948, p. 443.
[57] Ibid. *The Chymical Wedding* is attributed to him in B.M. catalogue too.

[58] See particularly G. Atkinson, *The Extraordinary Voyage in French Literature from* 1700-1720, Paris 1922.
[59] Van der Neck (J. Burgh) *An account of the first settlement, laws, form of government and police of the Cessares, a people of South America*, London 1764.
[60] Letter VIII, p. 92 f.
[61] Fénélon. *Les aventures des Telemaque*, Rotterdam 1725 (1st ed. 1699), p. 11.
[62] C. N. Ledoux, *L'Architecture consideree sous le rapport de l'Art, des Moeurs et La Legislation*, Paris 1804.

21



Ledoux

It is Ledoux who destroyed the conception of the city as a physical and philosophical entity. His individualism and his Rousseauism were responsible for that. In his ideal city of Chaux—illustrated in 21 *from his* Architecture *of* 1804*—he also destroyed all visual coherence of town-space. Although a centralizing tendency and a patternized plan still remain, the lack of coherence is obvious as is also the conscious and intentional isolation of the single building.*

was not only an architect: he aspired to be a philosopher as well. In contrast to Filarete's fascinating magic, Ledoux's text is largely empty verbiage; what of it is anything more is cribbed, partly from old and well-known authorities, partly from contemporary philosophy. In effect Ledoux advocated the end of town planning, both as a concept and as an art. In his account of Roman towns he claims that in pre-Augustan Rome each house formed an 'insula' by itself and comes to the conclusion:

> 'Ce n'est que la cupidité, le corruption des temps, qui les ont agglomérées.' 'Si depuis,' he continues, 'les nombreuses cités ont accumulé les adhérences, si elles ont élevé des etages confidents de la nue, bâti des villes les unes sur les autres, ce n'est qu'aux dépens de la race insouciante qui a privé la moitié du monde de la beinfaisance journalière que le soleil prodigue à l'autre moitié.'[63]

The obvious consequence of Ledoux's attitude is the abolition of the street. Although 'on voit seize rues qui tendent à un centre commun'[64] these are not really built-up streets, nor do they meet to form a centre: they are simply lines drawn on the plan. In fact it is in Ledoux's work that we meet for the first time that spectre which is to haunt all subsequent town planning—the traffic demon. One of the maxims of his town planning is that a diagonal is the shortest connection between the corners of a square:

> 'La ligne diagonale inscrite dans un carré, semblait réunir tous les avantages: elle accélerait tous les services.'[65]

Ledoux is the first planner of towns who believes that towns as such are intrinsically evil, nature and individual man being all that count:

> 'Tout reprend la trace impérieuse de la nature.'[66]

Rousseauism in town planning leads to an endless expanse of vegetable allotments:

> 'Tous possédent des jardins légumiers . . ., qui les tous peuvent occuper leurs loisirs à la culture qui assure chaque jour les premiers besoins de la vie.'[67]

How far we have travelled from the Middle Ages, when men believed that the purpose of the city was 'ut vita communis et ornatior fiat et tutior'!

Nevertheless, Ledoux did design towns, and even included one in his *Architecture*, although the reason he advances for its inclusion is not very convincing:

> 'Quoil dans un pays où l'inconstance ne permet pas d'esquisser un village, vous voulez construire une ville? Oui, sans doute. En concevant tout ce qu'il est possible d'exécuter, on éveille l'intérêt personnel, les valeurs s'accroissent chaque jour, et on calcule d'avance les resultats.'[68]

What was the real reason? One may assume that Ledoux was familiar with the works on architecture of the past which had included town plans. Can he actually have known Filarete's treatise (then of course existing only in manuscript)? The many similarities between his text and Filarete's, not to mention the fact that his town plan is essentially Filarete's, can hardly be due to coincidence. Although the general opinion of Ledoux's biographers is that he never left France,[69] a contemporary dictionary reports that he went to Rome[70]: perhaps he saw one of the Filarete codices either there or elsewhere in Italy. However that may be, Ledoux's significance is that he broke, once and for all, the thread from which only Alberti among earlier theorists had been able to disentangle the art of town planning—that thread whose several strands were the teachings of Plato and of Aristotle, astrology, and philosophy in the guise of geometry. It is remarkable that it had held so long.

When all is said, however, we should not be too hard on the political tendencies of the late eighteenth century. At least they produced that 'Utopian Socialism' whose reforming zeal was the driving force for the town planning of the nineteenth century, and of our own time through which the 'idea' of town planning was carried on. The liberalism of the nineteenth century did not allow much to be carried out. Sir Titus Salt's Saltaire[71] is no more than a housing estate for the workers of one big factory, and Buckingham's *National Evils and Popular Remedies*[72] as well as Pemberton's *Happy Colony*[73] led to nothing. Pemberton's layout is clearly influenced by Ledoux.[74]

> 'It is understood that the town is to be perfectly round, about a mile in diameter, and taking the form of belts or rings, which will become larger as they recede from the centre. The roads to be wide and spacious, and planted with ornamental trees, as shown in the pictorial plan, in which is also shown the manner of dividing the lands around the town.'

Later in the century followed Bellamy's books: in the following passage from *Equality*[75] he seems to foreshadow Le Corbusier rather than Ebenezer Howard, as whose source of inspiration he is usually mentioned:

> 'Continuing to move westward toward the interior, we had now gradually left behind the more thickly settled portions of the city; if indeed any portion of these modern cities, in which every house stands in its own enclosure, can be called thickly settled.
>
> 'All the modern cities are far finer and fairer in every way than their predecessors, and infinitely fitter for human habitation, but in order to make them so it was necessary to get rid of their surplus population, at least one quarter of its former inhabitants. Were you to visit Manhattan Island I fancy your first impression would be that the Central Park of your day had been extended all the way from Manhattan to Harlem River, though in fact the place is rather thickly built up according to modern notions, some 250,000 people living there among the groves and fountains.'[76]

The circular plan was once more adopted in the layout of Ebenezer Howard's Garden City of Tomorrow; the book came out in 1896 and so takes us right to the threshold of our own century. Its ties with the past are as firm as with the present.

The idea of a Garden City is not really an urban idea and with that faith in the possibility of benefiting from town life as well as country life it links up with Ledoux, but Howard's faith in the architect as the only planner stands at the beginning of the New Towns movement of today.[77]

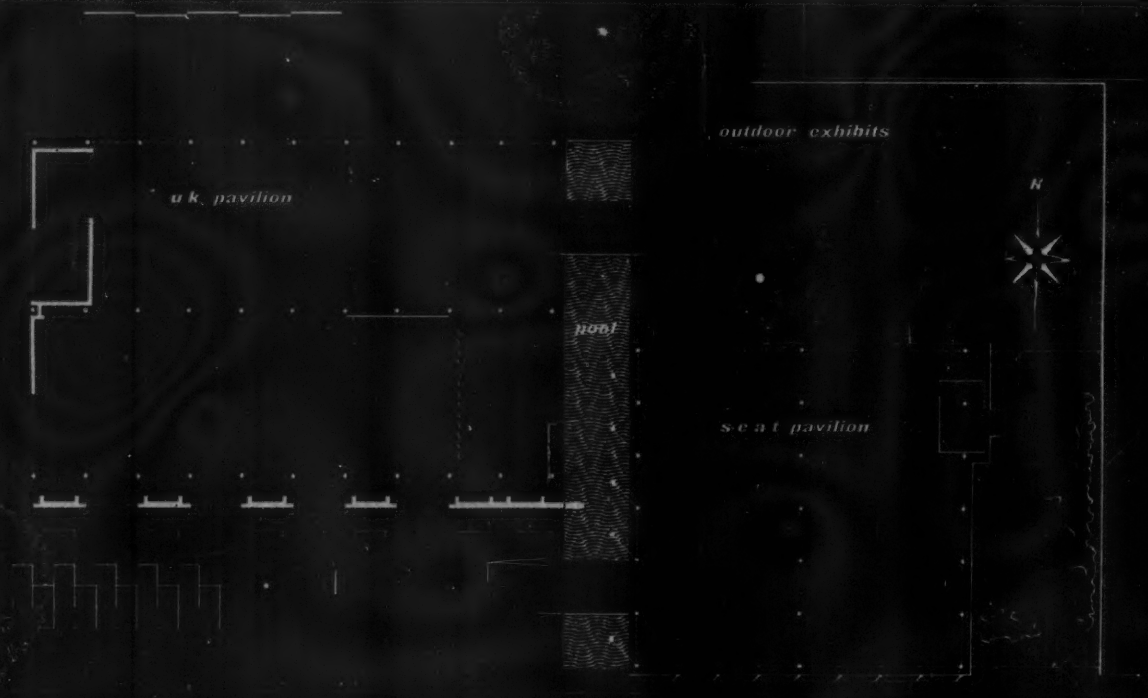
Still missing, however, is a theory of townscape—*that is, of the* art *of building towns. As this article has shown, there exists no body of consistent thought from which such a theory could emerge. There do exist, nevertheless, many examples of actual townscape, for which we have to thank accident or the intuition of their creators. Sitte was the first to recognize these for what they are. It is for our age to take over where he left off and in building our new towns to incorporate the results of our study, always remembering that the art of townscape must be concerned, first and last, with visual relationships—a realm in which the seeing eye, and not the abstracting mind, is the final arbiter.*

[63] op. cit. p. 70.
[64] op. cit. p. 72.
[65] op. cit. p. 66.
[66] op. cit. p. 75.
[67] op. cit. p. 67.
[68] op. cit. p. 75.
[69] M. Raval, *Claude-Nicolas Ledoux*, Paris 1945, p. 21.
[70] *Biographie Nouvelle des Contemporains*, Paris 1823, Vol. II.
[71] cf. J. M. Richards, 'Sir Titus Salt or the Lord of Saltaire,' ARCH. REV. 1936, p. 213.
[72] James Silk Buckingham, *National Evils and Popular Remedies*, London 1849.
[73] Robert Pemberton, *The Happy Colony*, London 1854.
[74] op. cit. plan of the proposed town.
[75] Edward Bellamy, *Equality*, London 1897.
[76] op. cit. p. 259.
[77] I should like to express my gratitude to the Warburg Institute for generous help given, especially to the photographic collection for kindly lending many illustrations.

1 COLOMBO EXHIBITION CEYLON UNITED

ARCHITECTS: MISHA BLACK, KENNETH BAYES, ELLIS MILES, all of

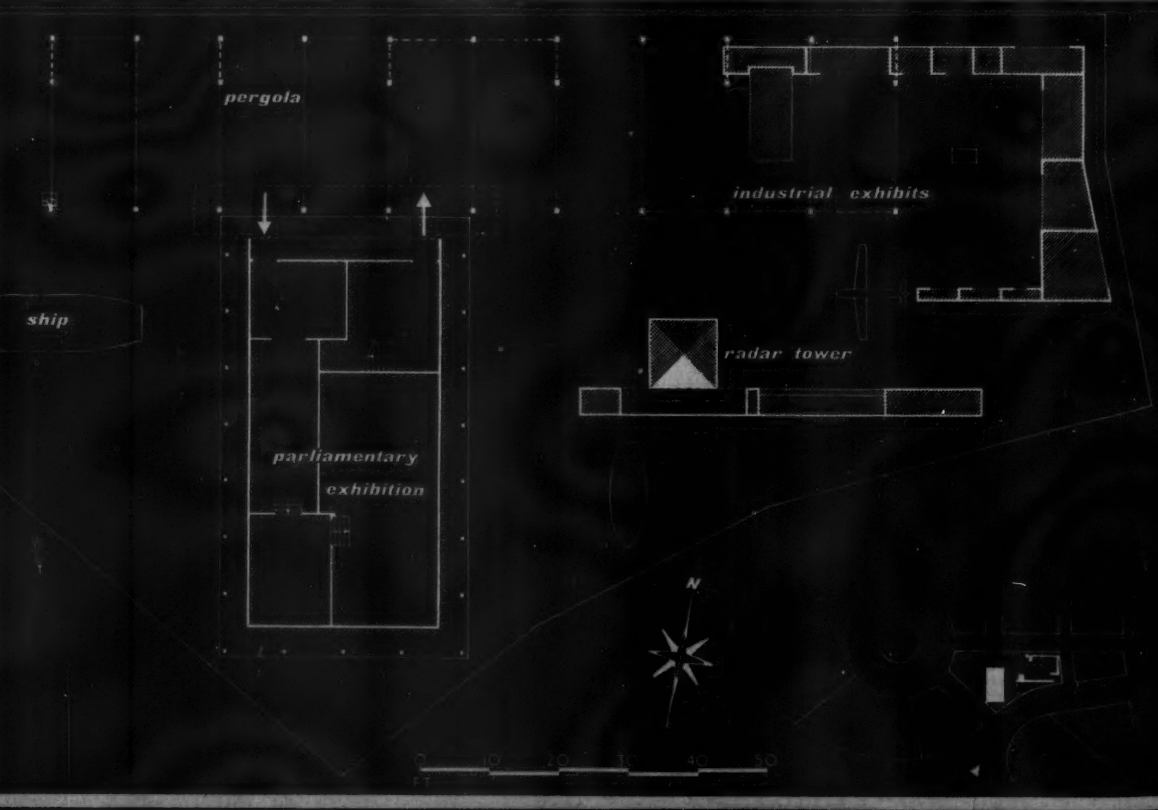
The Colombo Exhibition held in March this year illustrated the aims and possibilities of the Colombo Plan for the development of Asia. The UK and South East Asian Territories Pavilions, illustrated here, were designed for the Ceylon Government.



2 VAN RIEBEECK FESTIVAL FAIR

ARCHITECTS: SIR HUGH CASSON, NEVILLE CONDER; Display Designer,

The Van Riebeeck Festival Fair in Cape Town was held from January to April this year to celebrate the landing of the first white settler at the Cape three hundred years ago. The UK Pavilion, illustrated here, was designed for the COI acting on behalf of the Commonwealth Relations Office.



KINGDOM AND SEAT PAVILIONS

Design Research Unit

These two buildings, the larger for the United Kingdom and the smaller for the South-East Asian Territories (Singapore, Malaya, North Borneo, Sarawak and Brunei), are grouped together as one composition. They share a spacious forecourt, a rear courtyard for displaying outdoor exhibits and a strip of water, 20 feet wide by 100 feet long, which divides the site in two from front to back. The total enclosed area is 10,000 square feet. The buildings are on the main avenue of the exhibition, with a more informal approach from the back. They have been so sited that a large tree provides shade in each courtyard. The United Kingdom building is entered direct from the forecourt, the South-East Asian Territories pavilion by a bridge over the water. Both buildings can also be entered from the rear courtyard. To one side of the pool a low curtain of water falls from a pipe fixed below the kerb.

Because of the shortage of time and a very limited budget, it was considered essential that the basic structure should be some form of prefabricated shedding.

The main façade of the United Kingdom Pavilion at the Colombo Exhibition, Ceylon. The façade consists of brick piers and wooden sunbreak louvres. The entrance is the opening on the right.

CAPETOWN UNITED KINGDOM PAVILION

F. H. K. Henrion; Site Architect, Brian Mansergh

2

The United Kingdom Pavilion at the Van Riebeeck Festival Fair, Cape Town, looking south-east. Behind the pergola on the right is the Parliamentary Exhibition and on the left are the industrial exhibits.

3

4

3, general view of the Colombo Exhibition looking down the Royal Avenue. The lighting effects in the trees were obtained by fixing the bulbs to the tips of the branches. 4 and 5, the main entrance to the S E A T Pavilion from the forecourt by bridge over the pool. 6, section of the exhibition display in the S E A T Pavilion, housed under two standard Arcon tropical sheds. The display was designed in London for fabrication in Singapore and Colombo and built on site mainly of cane and bamboo. 7, the garden at the side of the pavilion for reception of visitors. A screen of local matting hides the backs of the adjoining shedding.

5

6

7

Such a structure could be shipped from this country within a few weeks, erected quickly, and would have a good re-sale value on dismantling. The system chosen (designed by Arcon for Taylor Woodrow) is used for both buildings, in each case two 30 feet spans in width, the UK building ten 10 feet bays long, the S E A T building six bays long. The structure consists of tubular steel uprights and roof trusses with corrugated asbestos outside and inside. The uprights fit into steel shoes which are bolted to the foundation concrete, giving an 18 feet maximum eaves height. The double roof lining, with a cavity of freely circulating air in the space occupied by the roof trusses, provides good heat insulation.

The façade of the United Kingdom building reads purely as a screen and is completely detached from the shedding. Although for speed, simplicity and economy of erection a permanent material—brick—is used, the screen-like effect is achieved by dividing the wall into panels, with louvred grilles between ; by placing it forward of the eaves ; by painting it bright blue ; and by keeping it only nine inches thick at the edges in spite of the height of 28 feet.

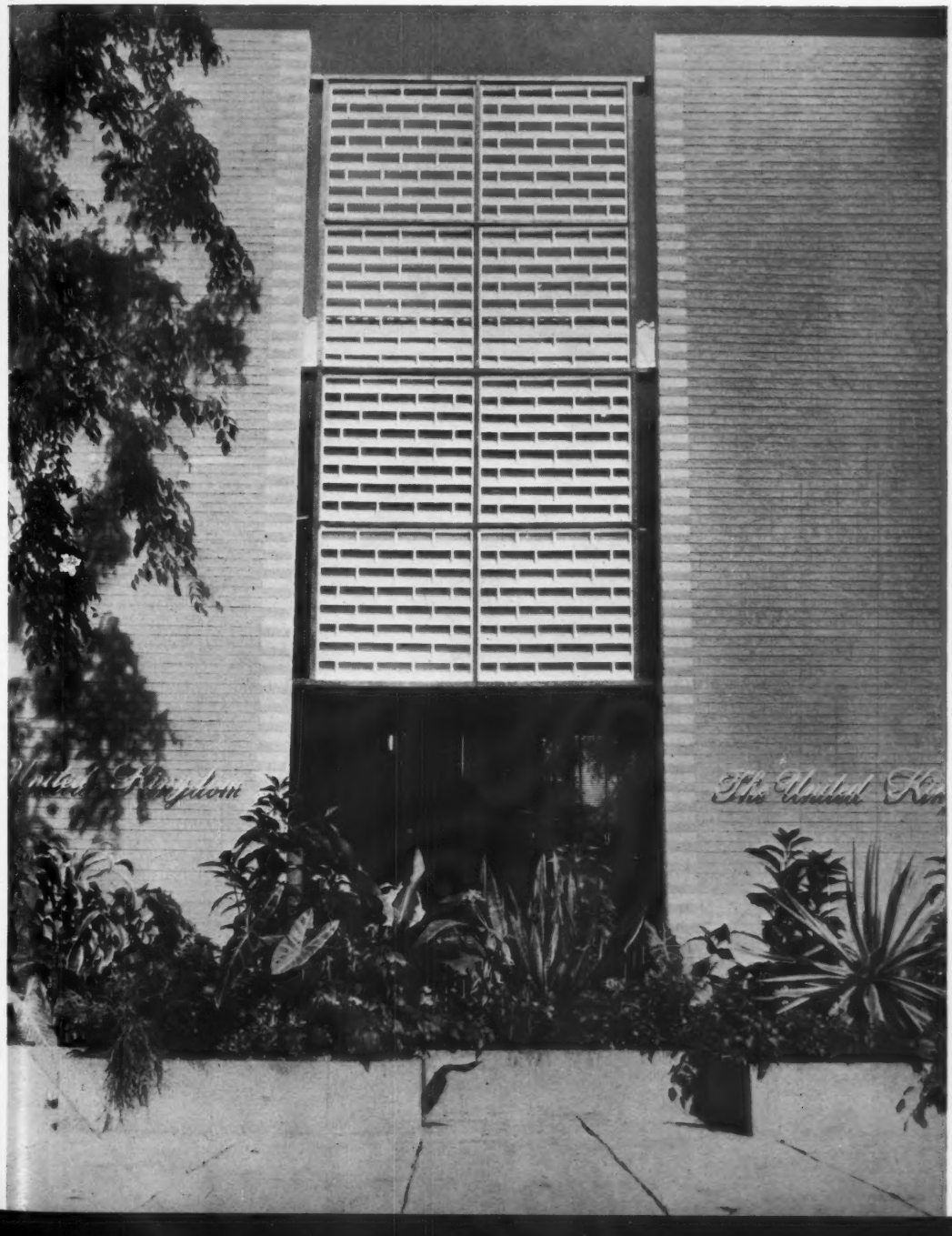
On the front façade of the South-East Asian Territories building the structure is left exposed. Tilted sun shields of local matting in hardwood frames fill the lower part and, with flower box below, give a three-dimensional pattern to this elevation.

Along the side elevation of this building, facing the pool, are flagpoles rising out of the water, flying the flags of the five participating countries.

The office block in the United Kingdom pavilion is constructed in brick, in form and in colour conceived as a series of planes. The back elevations of the buildings are hung with venetian blinds, cellulosed white, from eaves to floor, for the full length. Other walls are mainly open, with simple metal railings. This provides cross ventilation in all directions and, combined with the cavity roof, makes artificial cooling unnecessary. The structural s h e d d i n g is painted grey and white, the brickwork internally white, terracotta and light green.

Display designers were Jock Kinneir, Clifford Hatts, V. Rotter and Austin Frazer, all of Design Research Unit.

8



8. detail of the sun-break louvres between brick piers forming the screen wall of the UK Pavilion. The brickwork was painted blue with white quoins and louvres were white in hardwood frames.

2 VAN RIEBEECK FESTIVAL FAIR CAPE TOWN

Architects: Sir Hugh Casson and Neville Conder

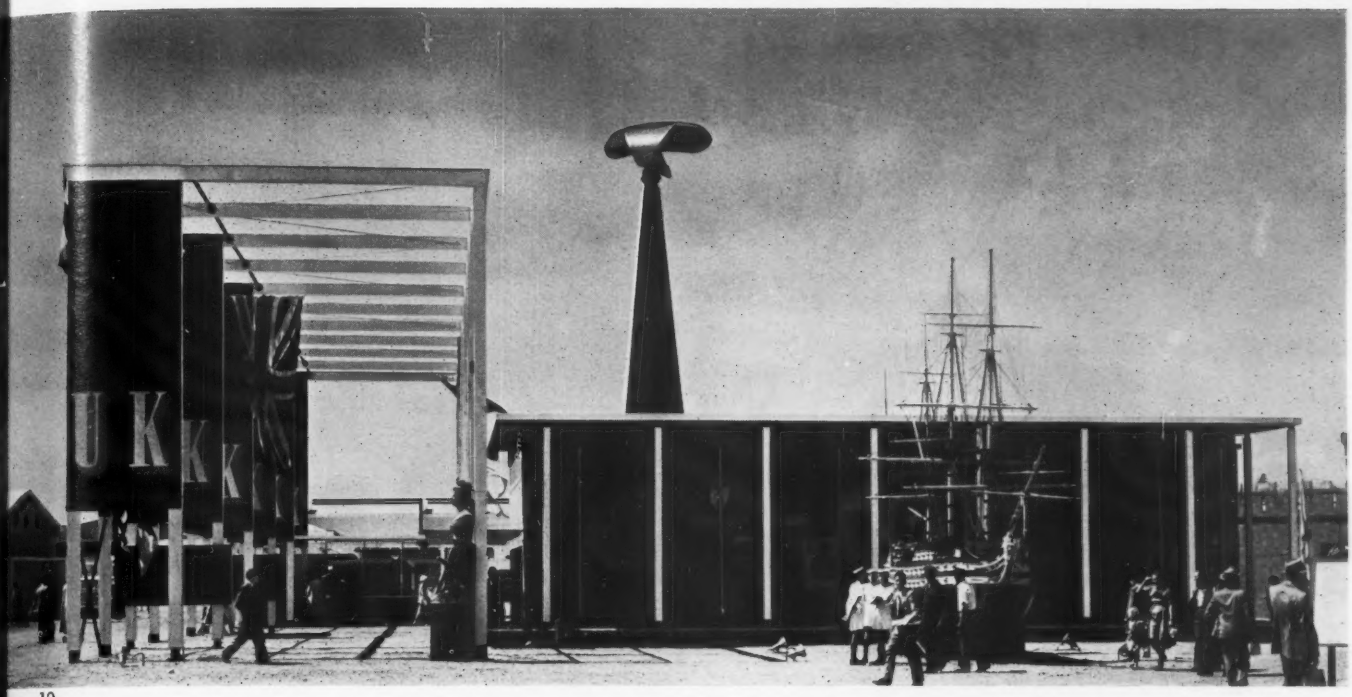
The United Kingdom Government accepted an invitation to take part in the Festival Fair held in Cape Town in the Spring of this year to celebrate the landing of Jan Van Riebeeck at the Cape in 1652. The UK Pavilion was designed for the Central Office of Information acting on behalf of the Commonwealth Relations Office.

The structure had to be erected in a very short time within the limitations of a modest budget and of materials locally available, principally timber and wallboard. The Pavilion was planned in two main sections: a display of technical and industrial exhibits and 'Parliament Past and Present', the exhibition designed by C. A. Munro of the Exhibitions Division of COI for Festival of Britain and originally shown in Westminster Hall in 1951. This was transported complete to Cape Town, and sited to be independent of the main structure. To save cost its original framing, beneath extended eaves, was covered with roofing felt in front of which was hung the Michael O'Connell tapestry from the Countryside Pavilion on South Bank.

The smaller industrial exhibits were arranged within display cases contained in the light framed walls that formed a courtyard to the east of the site. Larger exhibits were left freestanding.

The two main sections were linked by a large pergola structure in white painted unwrought timber, carrying flags and display panels painted dark green and lemon yellow. These carried lettering and the Royal Coat of Arms in white, scarlet and black.

9, the north-east corner of the UK Pavilion (see also page 103) with the industrial exhibits section in the foreground. The pergola was of unwrought timber painted white, with display and screening panels painted lemon yellow and dark green.



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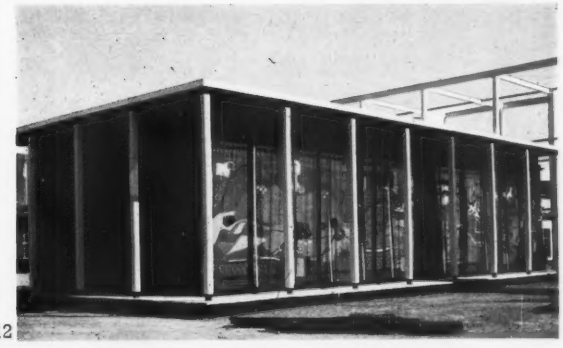
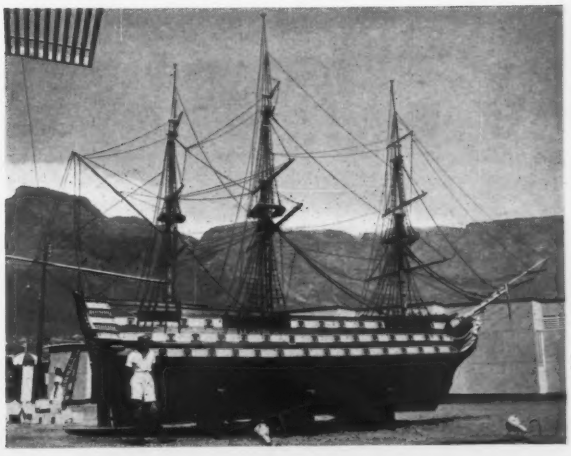
10, the UK Pavilion looking east. At the end of the pergola are the industrial exhibits and on the right the Parliament Past and Present exhibition which was first shown at Westminster Hall in 1951. 12, the Parliament Past and Present exhibition with tapestry by Michael O'Connell from the South Bank Countryside Pavilion.

11



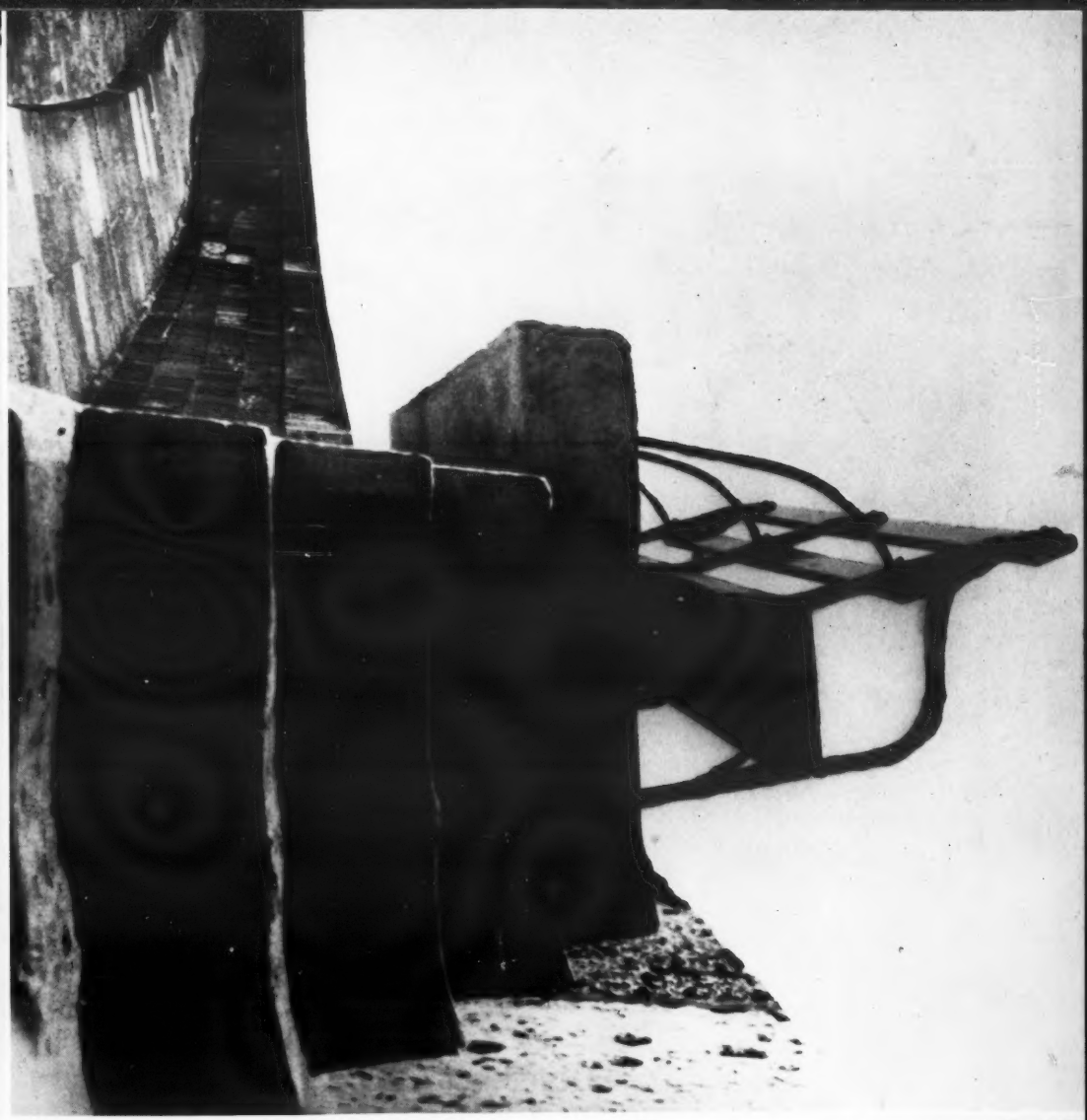
12

11, the radar tower and wall screening the industrial exhibits. 13, the scale model of Nelson's Victory. It is seen also in 10, standing in front of the Parliament exhibition.



13

VAN RIEBEECK FESTIVAL FAIR CAPETOWN



below datum • above datum *Although the phraseology of politics defines a person's position in terms of being left or right or centre, the more usual and natural classification is up and down. We look up to some people, we describe others as having a low mentality. The awareness of relative height is engrained in human nature; whether its significance derives from the primitive hunt or battle strategy or from the doctrine of heaven and hell it cannot be denied that even in the humdrum modern town awareness of level stimulates the citizen. Height equals privilege, depth equals intimacy: the point made in the pictures opposite. That this is not the whole story of levels in townscape the article below seeks to point out.*

Gordon Cullen and Peter Prangnell

CHANGE OF LEVEL

The art of manipulating levels is a large part of the art of Townscape; this article is concerned only with certain aspects of it, namely those which crop up in the street and those which affect the detailed design of intimate urban spaces. It is left to a later article to discuss the scenic effects obtainable by the exploitation of levels in the grand manner, and the proper use of the contours of a town site.

Variations in the level of the ground can occur either directly, as a result of the contours of the site, or artificially, arising out of the needs the planner has to meet. But however they are caused, one's reactions to levels are coloured, in the first place, by the peculiar sensitiveness that man has to his position in the world.

Every place has its datum-line, and one may be on it or above it or below it. (There is an opening for misconstruction here, since we tend to take our own datum-line about with us.) To be above datum produces feelings of authority and privilege; to be below feelings of intimacy and protection.

These sensations imply a very direct relationship between the observer and his environment. The enjoyment of a feeling of authority and privilege is of quite a different order from the enjoyment of other townscape effects—the sparkle of texture in a wall or the shape of a letter-face on a shop front. In the first case the observer is committed; in the second he can regard himself as more detached. Yet each is a legitimate and desirable effect to aim at.

Objects acquire significance according to their relationship to levels. The would-be imposing building is placed on the top of a slope, just as the statue is placed on a

plinth. Hence the difficulty of designing buildings on a slope: there is no datum and the result is often ambiguity. Besides the obvious relationships between buildings and levels there are many subtleties that can be exercised in practice; an example of this is the use of the double order in St. Paul's Cathedral, which enables the building to use the skyline of London as a plinth.

The manipulation of levels has, of course, its purely functional uses (see, for example, 'Hazards': THE ARCHITECTURAL REVIEW, March 1948), but even in the many functional uses of levels there are cases where a choice can be made between alternative solutions, where the problem cannot, honestly, be solved solely by reference to utilitarian conditions. Thus, for instance, one may wish to separate sitting space from circulation space in a park or square. How to do it? By change of level, but whether to raise or lower the space can best be determined by reference to the psychological effect, already mentioned, of being above or below datum.

Is there then any other aspect of levels besides the functional and the psychological? Yes, the third aspect is concerned with the purely visual, or objective, qualities inherent in a world which for many reasons refuses to be flat.

The simplest of all consists of seeing, of being aware of, the undulation of the ground—the cultivation of the sculptor's eye. How many places which at first glance appear to be flat reveal, on closer inspection, the subtle rise and fall which gives a scene vitality? This can be the more easily observed if there is a datum-line against which it can be measured, or a tell-tale—the handrail (see 17, page 114) which indicates what happens beyond the immediate horizon.

The fact that a sloping surface is more in evidence than a horizontal one can be put to good use in order to create a sense of space, especially where there are crowds. Visitors to the South Bank will remember the grassy slopes which provided such a good foil to the paving and remained green because no one could trample on them. This point introduces the major one of changing level with elegance. The transition is often accompanied by a confusion of unnecessary trimmings—railings and shrubs and the like—obscuring the true qualities of geometry and homogeneity. To regard a slope as vacant space, a visual vacuum, which must be made to look pretty shows precisely the same outlook as that which decorates the traffic roundabout with rockeries.

Changes of level should contribute something positive to the townscape. The point has been made before in articles concerning the floor, that it is a unity which is too often disrupted, and it may be appropriate to start our survey of levels bearing in mind the thought that although levels change we need not be their slaves.

3

ABOVE DATUM

It isn't only the view you get from being high, it's the feeling of advantage, the feeling that you have got into a position of privilege, a position that is just as enjoyable if you look at the view as the linear gentleman is doing, 3, at Montpellier, or ignore it like the reclining youth next to him. It can be excitingly exposed and exhilarating as in the South Bank lookouts, 5, or more modest, just a raised platform, but a solid vantage, as on the jetty at Minehead, 4. Surely there is something very playful and instinctive in this, for it is just the same as a child's love of walking on walls. The lower two pictures illustrate that both places and buildings assume significance by their position. The raised square at Agde, 6, at once appears somehow special, a place worth going to, and the unpretentious buildings in Salamanca, 7, situated on what is in fact only a gentle slope, are dramatized by the treatment of channels and steps which serve to exaggerate the change of level.

4

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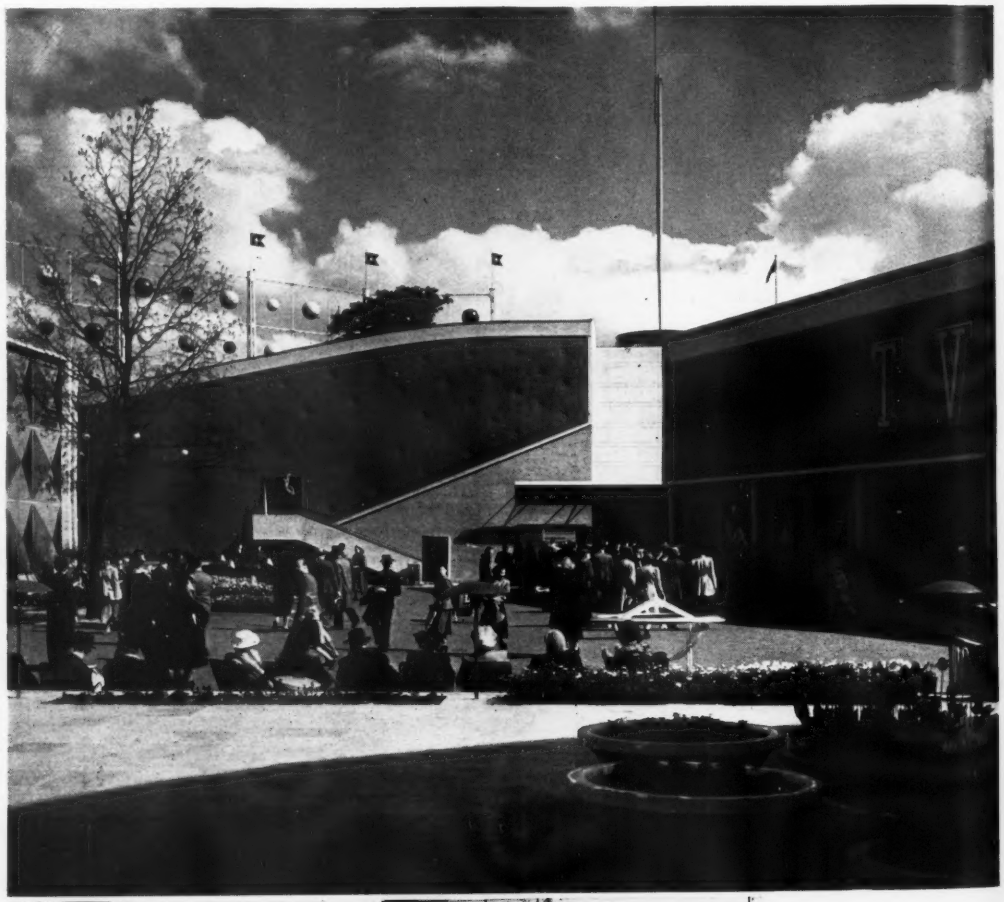
8

BELOW DATUM

By contrast with the area above the general level, the area below assumes an intimate and cosy character. It can be exploited functionally to give a sense of seclusion where it is appropriate, as in the French street in the drawing above; or socially as in that experiment in physical planning known as the South Bank exhibition, 8. *How right this looks—the small urban place, made friendly and concise by its lower floor.*



Although Trafalgar Square is a monumental conception, little advantage is obtained from the townscape potentialities of its changes of level, 9; *this is not a plea for sinuous paths and the picturesque. The example from Stockholm,* 10, *shows how a simple and urbane character can be achieved by formal means.*

9

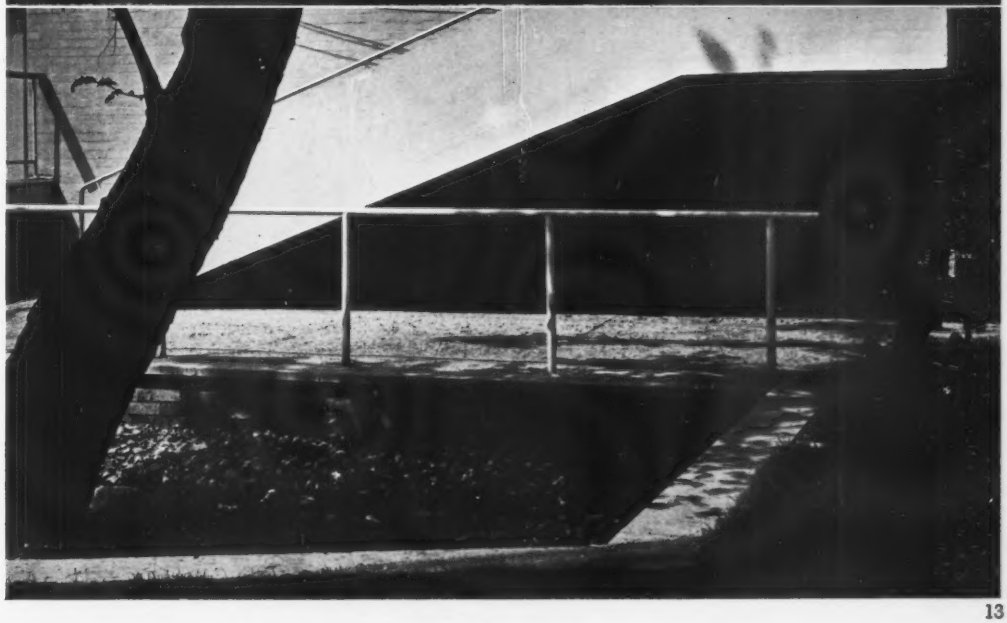
10

CHANGING TO SOME PURPOSE

Most changes of level which are not derived from topography exist for functional reasons. This tiny oasis or watering place in the South of France, **11**, *is marked out, its boundaries fixed by lowering the pavement level, a sensible precaution where water is concerned. The two pictures,* **12** *and* **13**, *both from the South Bank, depict slight changes of level used to define special areas. No one, not even a child, would be prevented by the rise of a few inches from walking across the area reserved for sitting. But it does provide a sufficient deterrent to preserve the identity of the place. Likewise, the tree is protected by a fall of level (which could be filled in when the tree is big enough not to require protection). In both cases, however, the decision to raise or to lower the areas could hardly be settled by reference to utilitarian considerations alone, for the functional problem is solved by either. The answer lies in deciding what sort of inflection—advantage or intimacy—is proper to the situation. The change without purpose is a bore and a nuisance,* **14**.

11

12

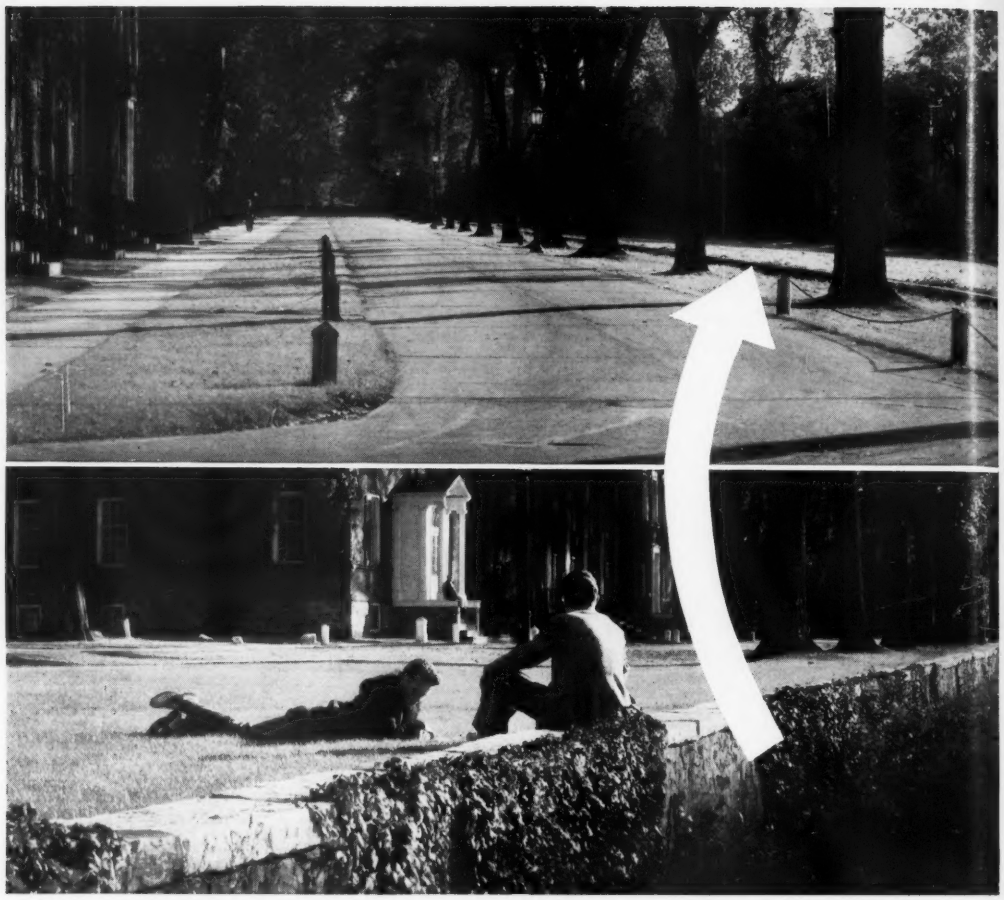


13

14

THE HA-HA

The use of change of level as a hazard (the compromise between visual freedom and social restraint) is a well-known device, its commonest form being the ha-ha, and the two views of South College, Schenectady, 15 *and* 16*, show the resulting spaciousness that this device can give you.*

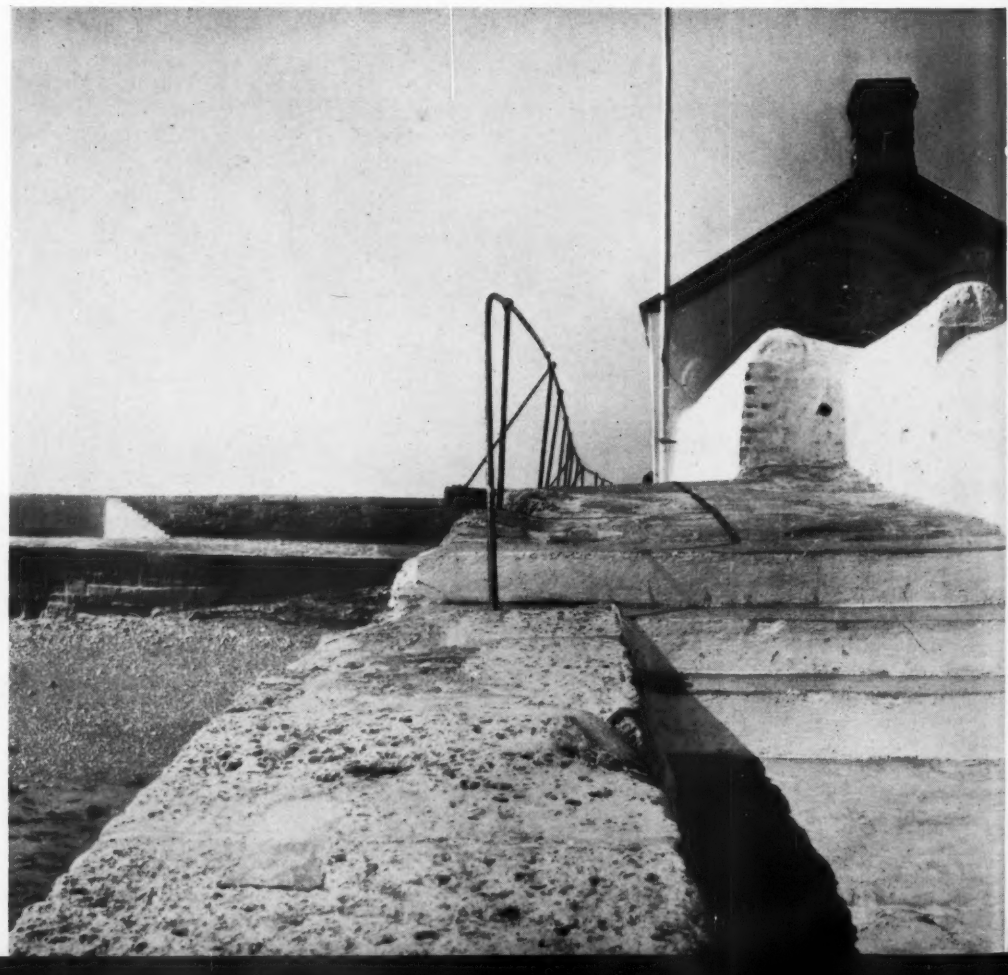


16

16

THE TELL-TALE

We have described the psychological effect levels have on us and also referred to their functional applications; here and overleaf we are concerned with the purely visual implications. And of these the first is the observation of undulation, the vitality which it gives to a scene. Even the floor of a quad gains in interest by being laid to falls for drainage. But the very fact that often the undulations are slight makes it the more interesting to have tell-tales, the true horizontal which exposes a slight deviation or, as in 17*, Lyme Regis, the railing which follows the contour and reveals what happens behind the immediate horizon. This is the sculptor's view.*



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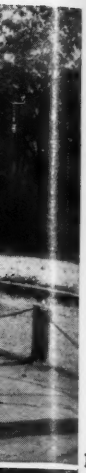


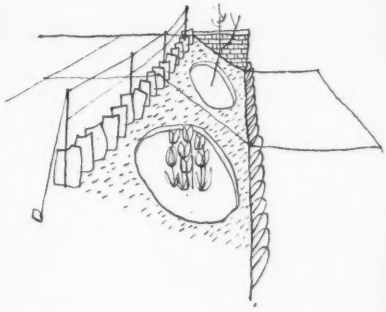
15

16

17

CHANGING WITH ELEGANCE

The sloping plane which joins two levels, being unusable, is generally regarded as a dead spot in the scene and too often attempts are made to prettify it in the fashion shown in the sketch below. But as 18, *at Stavoren, Holland, shows there is no need to camouflage the change; the geometrical precision, together with the cohesion arising out of uniform materials, shows the virtue of the direct solution which achieves a monumental dignity. A different kind of treatment, a fragment from Dartmoor,* 19, *derives its charm from the organic moulding of earth and retaining wall which is enlivened by white paint just where*



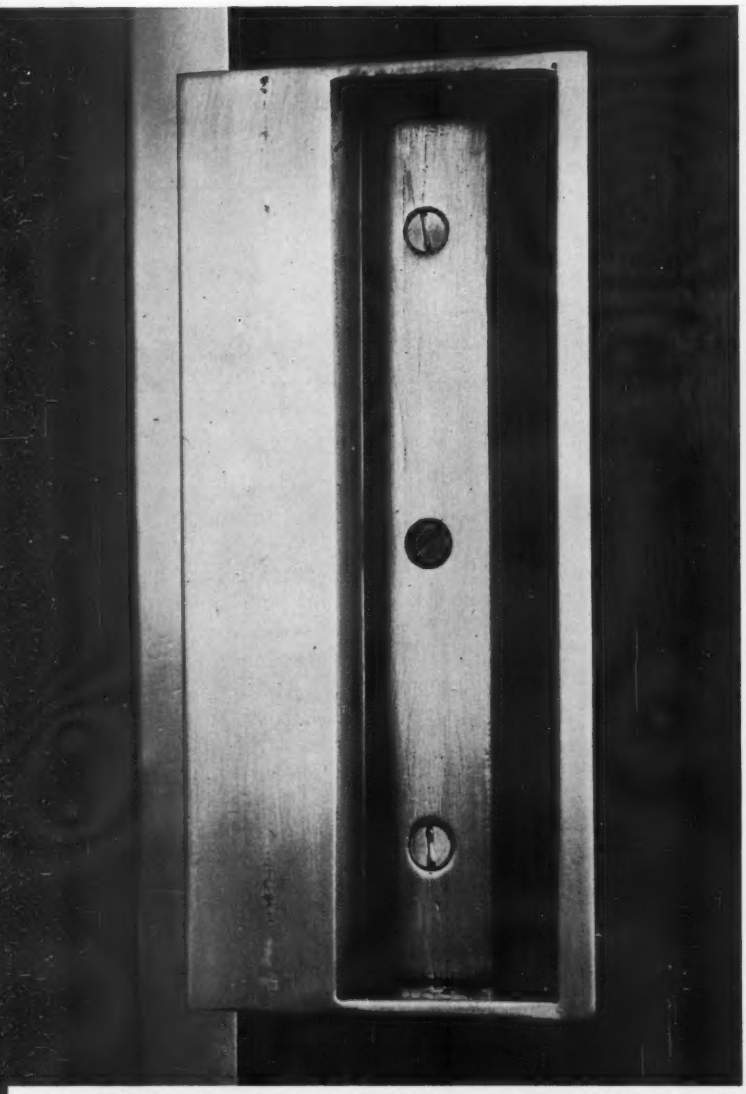
it is needed. Nothing to it? Just a rough wall? Below, 20, *can be seen the confusion that could have happened, and indeed has happened in Ilfracombe.*

20

18

19

door and window furniture *An architect must either choose his 'furniture' from a manufacturer's catalogue or design it himself. Door furniture particularly involves problems of integration which sometimes force the latter choice. Custom-made designs inevitably cost more than stock fittings but their value is evident in these Royal Festival Hall examples (architects: Robert H. Matthew, J. L. Martin, Edwin Williams and Peter Moro). Although individual solutions, these could all be produced in quantity. Top left, pull grip in silver bronze, on doors to boxes; top right, handle in silver bronze and ebony, used generally; bottom left, push plate in silver bronze, handle inset with ebony, foyer entrance; bottom right, grip in silver bronze and hardwood, doors to restaurant.*



H. McG. Dunnett

DESIGN REVIEW

DOOR & WINDOW FURNITURE

Some day a history may be written on the development of the door and its appurtenances. It would have to make frequent excursions into the byways of social history, starting with the first caveman who rolled a stone across the mouth of his cave, passing in due course to ceremonial doors—the temple and the palace, to strongholds with portcullises, till eventually it reached the more peaceful days of the seventeenth and eighteenth centuries when the average door ceased to be a mere wooden barrier in a hole in the wall and became an integrated piece of design. On approaching the twentieth century, the scene would become extremely complicated, due to the multiplication of mechanical contrivances that made possible new ways of making doors work—doors that swing up and down, doors that slide up and down or from side to side, partition doors that concertina and the favourite of the film comics, the door that goes round and round. In contrast, and despite the similarity, window furniture would hardly have been noticed until this period.

Trends in door manufacture brought the mass-produced door in standard sizes—as the wood framed and panelled door, the flush door made of blockboard, the door of rolled steel section framing, of pressed steel sheet, and plate glass armoured and otherwise.

It could be shown how changes in social custom added gradually to the quality and appearance of door furniture. There might emerge at the front door a social struggle between door-knocker and bell-pull. The system of postal delivery passed through more than one phase before the method of pushing letters through a slit in the door became established. The social importance of front door appearance in semi-detached houses between the wars, or the shop front display door, could both be studies on their own.

As a reasonable generalization then, it may be said that by the latter half of the eighteenth century, door furniture had become an integral part of door design, just as the door was regarded as an integral part of the house front and the room. Between then and the present day, the essential pieces of door furniture have changed little in purpose. Their design, however, has been affected not only by changes in taste, but also by changes in manufacture—standardization, quantity production, new materials—and by the mass-production—but hardly standardization—of door furniture.

Today an architect or designer, unless he designs a special door and door furniture at tailor-made prices, must accept a door made by machine processes and find handles, letter-boxes, and other items of door furniture from manufacturers' catalogues, and then try to integrate this collection of bits and pieces.

From the point of view of design, very odd things seem to happen. A nicely finished flush, sleek, blockboard door, something that is an entity in itself, is delivered to the joiner, who then proceeds to cut a slot for the letter-box, a piece out of one side for the lock, and more from the other side to countersink the hinges. Room doors suffer a similar indignity though to a less degree. It is probably more economic to deal with the physical purposes of a door in this way, but since, for example, most front doors require their fitments in much the same place, one would have expected some go-ahead manufacturer to have offered, by now, a door complete with its furniture, at a price less than that of the door, plus furniture, plus the cost of cutting and fitting on site. Perhaps the moulded plastic or pressed resin-bonded door will one day take care of that.

Then there are certain awkwardnesses about doors which have not yet been solved satisfactorily. Solutions there are, but these are not yet generally applied, usually for reasons of cost. There is the everlasting problem of opening a door when both hands are full. The accepted instance involves a trayful of crockery

which has to be balanced on one arm, or pressed against the door till the action of friction enables one hand to be freed for a fleeting second. As the age of chivalry fades this problem increases. Shutting the door behind one with a foot crooked round the edge is in comparison relatively easy, though undignified. It is true that there are swing doors with ball catches, door closers, even electric eye door-openers, but they are rarely applied to domestic purposes. Even large push-bar handles, something like those on the panic doors used in public buildings, would be better than having to twist a little knob in such circumstances.

Front doors, except the ceremonial type manned by commissionaires, offer similar terrors, with the added ones of finding and conveying key to keyhole, or of trying to press a bell-push when one elbow is the only member available for that operation.

Who has not, at some time or other, caught a pocket on a door handle and ripped a perfectly good suit or dress. Most door handles are at just the correct height for this disaster. Sunk door handles or the push-bar type would obviate this, and, of course, examples of these do exist. Some manufacturers produce lever handles which are curved to prevent this, but they are not common.

Other industries than the building industry have had this door handle and lock problem to deal with. In the motor car, the handle with lock inset is now universal. Other types of car door handles have push or pull operation so that the handle operation and door opening motion are in one direction rather than in opposite directions. There are thumb-push releases attached to a door handle. The electrically actuated door opening and locking device has also been used on cars and there seems to be no good reason for neglecting it as a domestic device. After all, the buzzer with remote control release is standard on the Continent. Quite a good handle-cum-lock release is that used for railway carriage compartments with sliding doors, opening into the corridor. The handle is used to push the door and moves over to release the lock at the same time. These developments have so far produced little response in the domestic field.

To return to the domestic door and its furniture. There were signs before the war that a synthesis of furniture and door was reappearing. One way of achieving this was by means of a composite handle and lock. Another example was a combined letter-hatch and handle. This might well be extended to include a door-bell and finger-plate. A trend which also suggests a contemporary approach to this synthesis is apparent in the doorway of glazed metal frame, only part of which is actually a door. The letter-hatch, bell, handle and lock may be arranged in two groups, only the latter two being on the door.

The position of the door furniture manufacturer has been distinctly difficult ever since 1939, due to the acute shortage of non-ferrous metals, at least for this purpose. Since the war it has been practically impossible to lay down production programmes and issue catalogues that meant anything, for the raw material position changed from month to month and prices soared. Now it is more difficult than ever. There was a widespread change-over to aluminium alloys which, though they did not satisfy the manufacturer used to brass and bronze, at least gave the architect and designer a material to which there were few, if any, objections. Now this material is becoming more and more difficult to obtain and prices are going the way of brass and bronze. Quite a few manufacturers who were asked to supply illustrations of their products for this article declined with apologies, since they did not wish to suggest that they could supply equipment when the raw material position made the likelihood extremely doubtful.

One of the best known and most progressive firms, as far as contemporary design goes, and up to now exclusively concerned with metal work, is turning to hardwood for door-knobs, so as to reduce the metal part to the rose and to the moving parts. This need not, of course, be detrimental to door fitting design, but it upsets the smooth operation of quantity production, and affects the manufacturers' ability to quote stable prices. At least two ranges of handles and grips have been designed since the war by well-known designers for plastic manufacturers, but their problems are no more straightforward than those confronting the makers of metal ones, and one manufacturer has already announced that his range will probably be discontinued when present stocks run out. Designs in perspex have also been produced, but since the sulphur shortage, supplies of this plastic have practically ceased to be available for uses of this kind. Glass, though quite common for finger-plates and used also for door-knobs and grips, is hardly a suitable material for other forms of door furniture.

One cannot leave this subject without expressing the feeling that there is room for much basic thinking on the design of door furniture. It is unlikely that much will come from churning over traditional methods and materials, apart possibly from a more resolute attempt to develop the composite type. There is definitely room for progress in that direction.

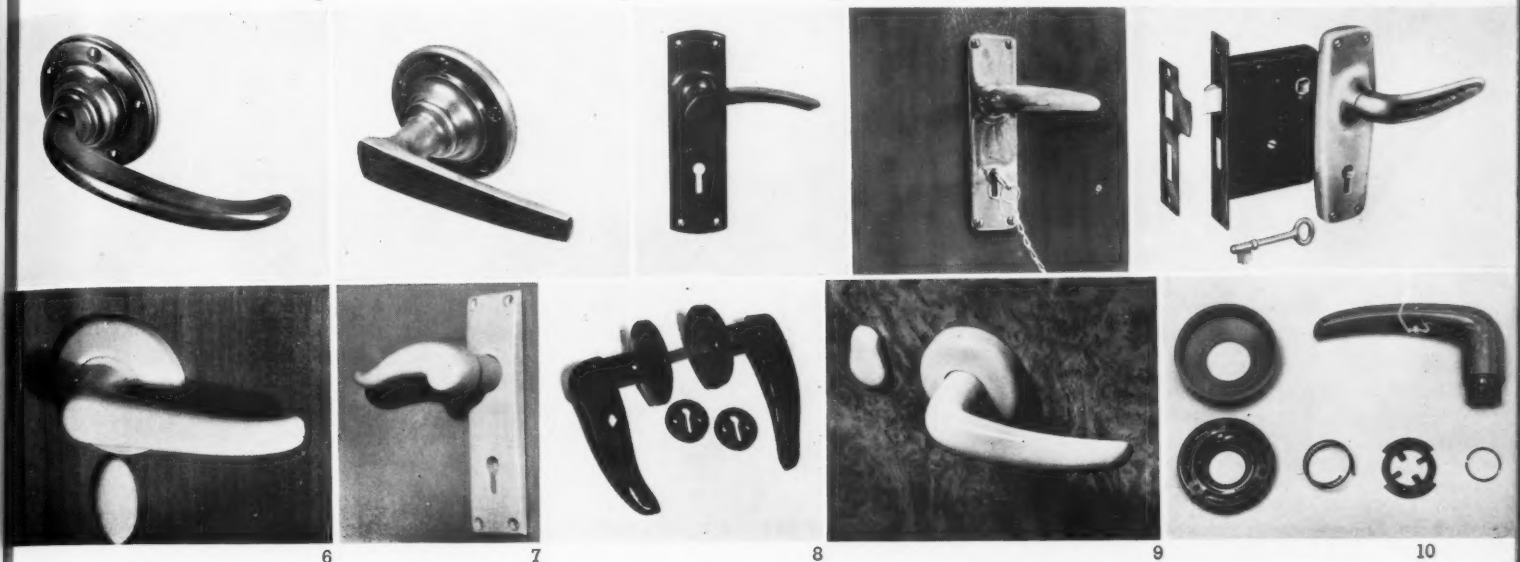
New development is liable to come, as it has recently in other instances of progressive design, from outside the industry unless the manufacturers concerned keep their ears to the ground, their development departments busy and maybe commission a few more industrial designers. Shortage of raw materials is no let out, for it is precisely these conditions that really set a challenge to the progressive manufacturer and designer.

Employed solely for opening and shutting windows, for hingeing, sliding and locking them, window furniture in use today is, in its general form, of much more recent development than that for doors. The main cause of this has been the general transition from sash to casement windows, and undoubtedly one of the main factors in the character of the fittings themselves has been the remarkable influence of the metal window manufacturers.

The best examples of window furniture design have been evolved by an engineering, technical approach to the integration of performance and æsthetics, though the results are so predominantly robust that æsthetics seems too weak a word to use. The sanity and unself-consciousness of these designs suggest that they have reached a point where a real advance is difficult. It will certainly be interesting to see what these firms will do when they feel that a change is essential.

levers *The most awkward part of lever design seems to be in forming a right angle bend that suggests robustness. The combined type* (3, 4, 5 *and* 7) *assists this process and so does the return curve* (1 *and* 6) *though its main purpose is to prevent the lever catching in clothes. An original lever design is shown on page* 116. 1, 2, *in bronze by Henry Hope & Sons.* 3, *in bronze, designer Grahame Ross, for Rennis.* 4, *in steel made by Josiah Parkes & Sons.* 5, *'Mersey' lockset of zinc base die castings in bronze or chrome. Spring-loading allows the handle to be used in either direction, designer J. T. Boardman for J. P. Fielding & Co.* 6, *plastic cover on metal, designer Brian O'Rorke, made by Roanoid.* 7, 8, *scrolled levers. Since the mechanism is not spring-loaded, the curved lever is intended to offset any appearance of droop from the horizontal.* 9, 10, *spring-loaded levers with brass wearing surfaces.* 7-10, *in moulded plastic, designer Rodney Hooper for Lacrinoid.*

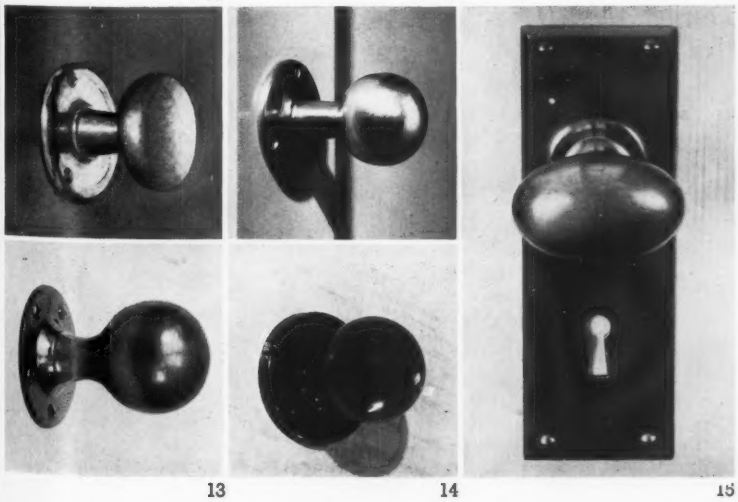
1 2 3 4 5



6 7 8 9 10

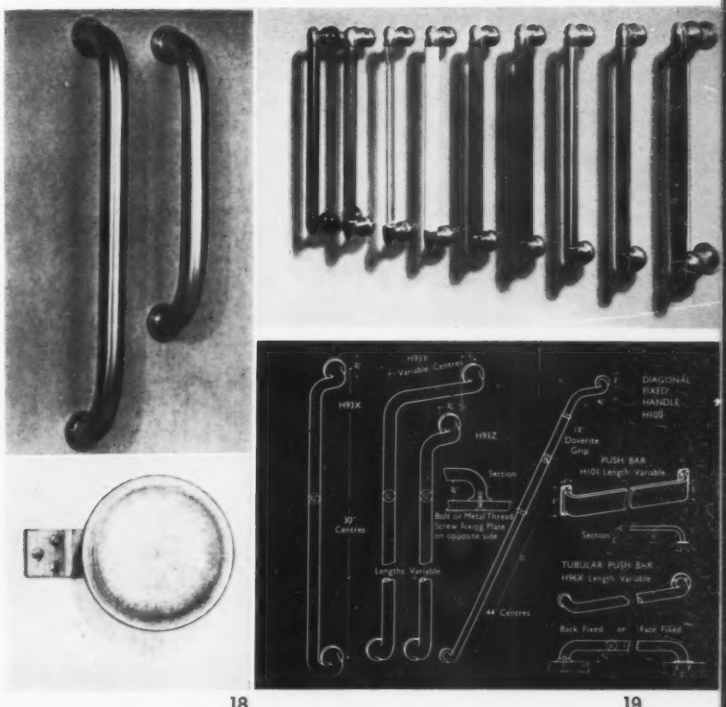
knobs *Door operation is surely less convenient with the knob than with the lever, though the former offers less strain to the mechanism. The dimensions of a handle must be determined by function—grasp, leverage, clearance, assembly. The appearance depends on a suitable relationship between knob, shaft and rose.* 11 *and* 12 *have distinctive shafts which determine their character, satin chromium, designer Roger Peach for Dryad Metal Works.* 13 *is equally robust; in bronze, by Henry Hope & Sons.* 14 *gets solidity from its large rose; in moulded plastic, designer G. M. Adie for Lacrinoid Products.* 15, *a well-proportioned composite example in bronze, by Henry Hope & Sons.*

11 12



13 14 15

16 17



18 19

bars and push-pads *The simple bar is one of the best and most adaptable examples of door furniture ever evolved, since its proportion can easily be varied to suit any door, and variations in shape are simple to make. Equally sound is the recently introduced push-pad. With a hardwood pad these are simple to make and economical in metal.* 16 *and* 19, *in aluminium or bronze, designer Roger Peach for Dryad Metal Works.* 17, *various materials, made for Pilkington Brothers.* 18, *push-pad in wood or metal, by Rennis.*

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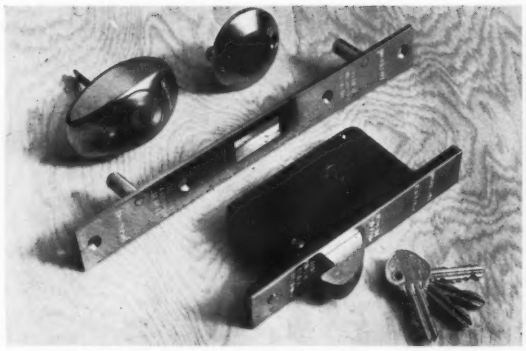

22

locks *Perhaps because the mechanism is so frequently concealed in the door, there seems to be a tendency to neglect the design of those parts which show. Even locks which are attached rather than inset suffer in this respect despite the remarkable traditions of lock-making. The three examples shown are in the true tradition.* 20, *a roller latch for use with swing doors, with bronze face plate and steel casing, by Crittall Manufacturing Co.* 21, *a ten lever, cylinder type mortise clawbolt deadlock, with combination lock, and* 22, *a rim automatic deadlock, by Ingersoll Locks.*

23

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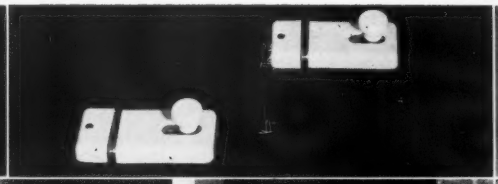

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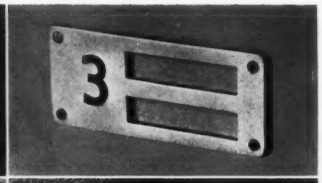

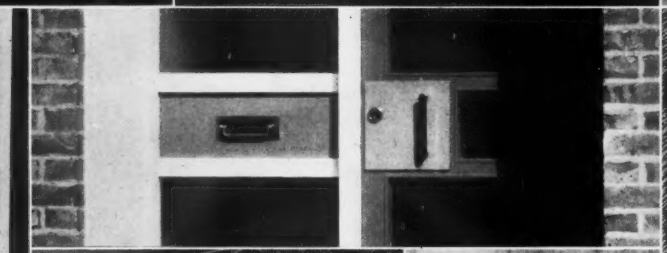

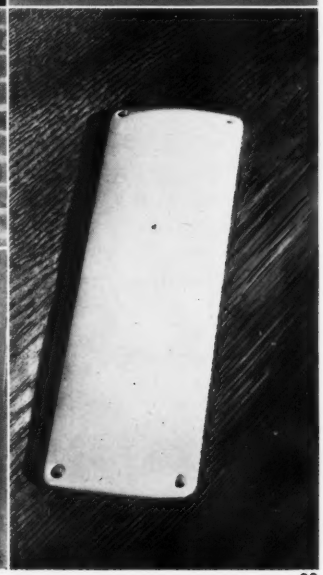

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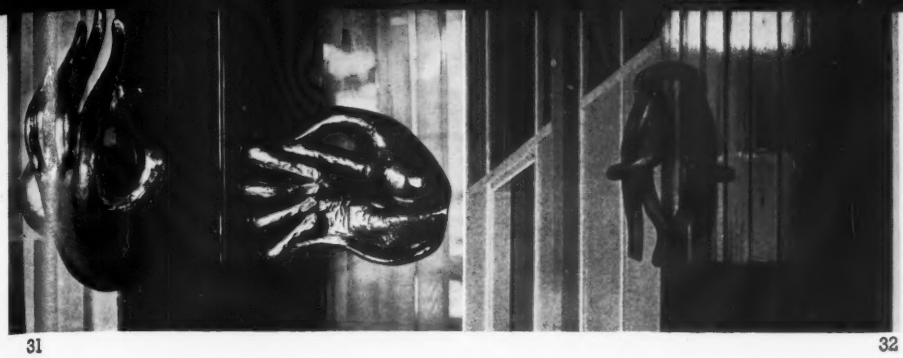
27

28 | 29

30

miscellaneous *One of the healthiest developments in door furniture is the composite unit, which integrates the essential components with the door.* 23 *and* 27 *were both designed by and specially made for the architects,* 23 *by Powell and Moya for their houses at Chichester,* 27 *by Norman and Dawbarn for their Sandringham Road, Hackney, housing scheme.* 24, *one of the neatest slip bolts on the market, in plastic, reinforced with metal, designed by E. C. Leach for Roanoid.* 25, *card holder and flat number plate in anodized aluminium and* 29, *an extremely simple and sound hat and coat peg, designer Roger Peach for Dryad Metal Works.* 26, *fingerplate in perforated bronze, Regatta Restaurant, South Bank, designers Misha Black and Alexander Gibson.* 30, *fingerplate in moulded plastic, designer Rodney Hooper for Lacrinoid Products.* 28, *'Champion' door closer, robust but not bulky, by Forson Design and Engineering Co.*

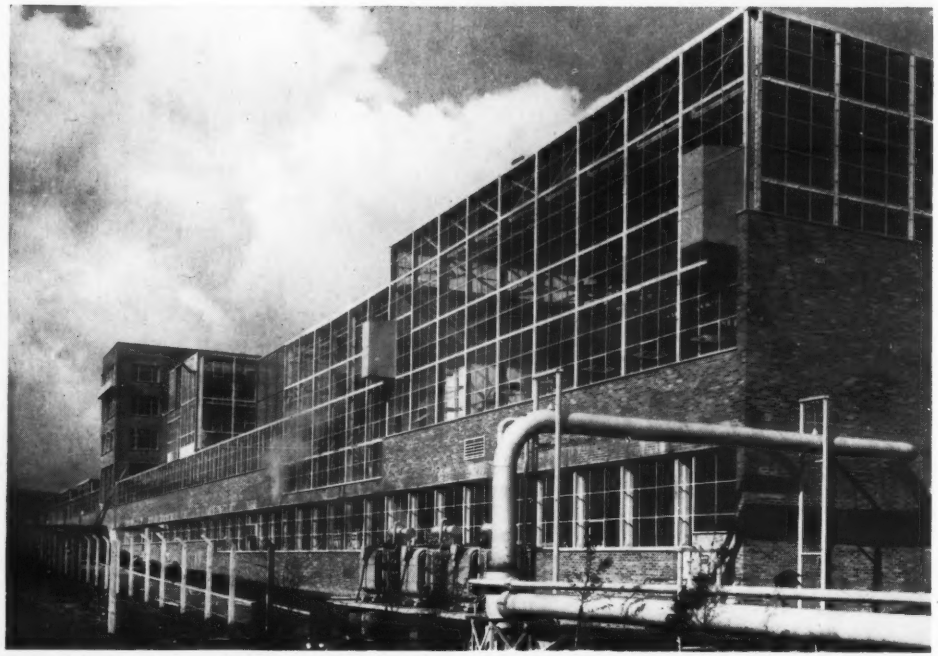


31 32

sculptural *For a ceremonial or display door, custom-made door furniture is practically essential if scale and proportion are to be preserved, and individuality stressed. It is a logical problem for the sculptor.* 31, *hands in bronze, Regatta Restaurant, South Bank, and* 32, *knot in bronze, Department of Civic Design, Liverpool. Both by Mitzi Cunliffe.*

WINDOW FURNITURE

Window furniture design has developed differently from that for doors. The influence of two firms of metal window manufacturers, Crittall's and Henry Hope's, both with a sane and progressive approach to design, has resulted in an engineering solution—to the integration of form and performance—which could hardly have been improved upon. Remote control gear tends to suffer from the awkward job that it has to perform. That by the Arens Co., however, utilizing a system of encased cables, is of robust design, which at the same time is neat and unobtrusive. 33, *Bronze anti-burglar locking handle;* 34, *Gunmetal handle for their universal casements, both by Crittall Manufacturing Co.* 35, 36, *Bronze handles for metal windows and* 37, *Bronze handle for casements glazed inside, by Henry Hope and Sons;* 38, *Handle of pressed steel, rustproofed and coated with bronze metallic paint, working parts bronze for standard metal window;* 39, *Bow handle in phosphor bronze for their universal casements;* 40, *Espagbox and rods in phosphor bronze for folding windows and doors;* 41, *Carriage lock in phosphor bronze;* 42, *Spring catch for horizontally centre hung and bottom hung sashes and casements;* 43, *Standard metal window stay in rustproofed and coated pressed steel, and bronze;* 44, *Gunmetal sliding stay;* 45, *Roto operator in die-cast aluminium, for windows with fly-screens;* 38-45, *all by Crittall Manufacturing Co.;* 46, *Operating handle for remote control gear by Arens Controls.*



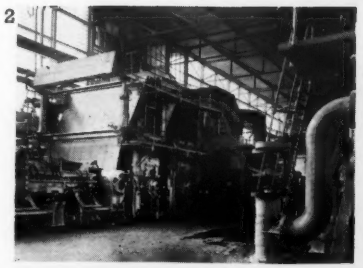
1, *south facade of the production area, with the tall office block on the left.*

PAPER MILLS NEAR BRIDGEND, SOUTH WALES

ARCHITECT: HENRY BUDGEN

The site of this paper mills had to be located in a government-scheduled distressed area, to have sufficient supply of water for paper-making, and to be sufficiently large to allow for the economic extension of the mill in any direction. The close proximity of Llynfi Power Station assures a supply of piped steam adequate for the necessary processes, thus eliminating the need for a large boiler plant. It also provides a convenient source of electric power for machinery. The administrative offices, canteen, laboratory, etc., are planned on the first to third floors to allow a free production flow at ground floor level between machinery house and finishing area. The managers' offices directly overlook the production area. The whole mill is steel framed, based on an 8-foot 3-inch transverse grid with walls mostly of 11-inch brickwork below sill level. Roofs throughout are of aluminium decking, centrally drained. This inverted roof construction also gives improved light distribution and reduces the cubic content of the building for space heating and forced ventilation. Windows are steel framed and are clipped direct to the steel stanchions, thus providing the maximum daylight.

2



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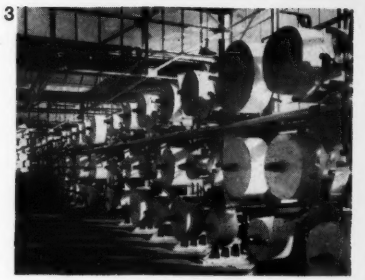
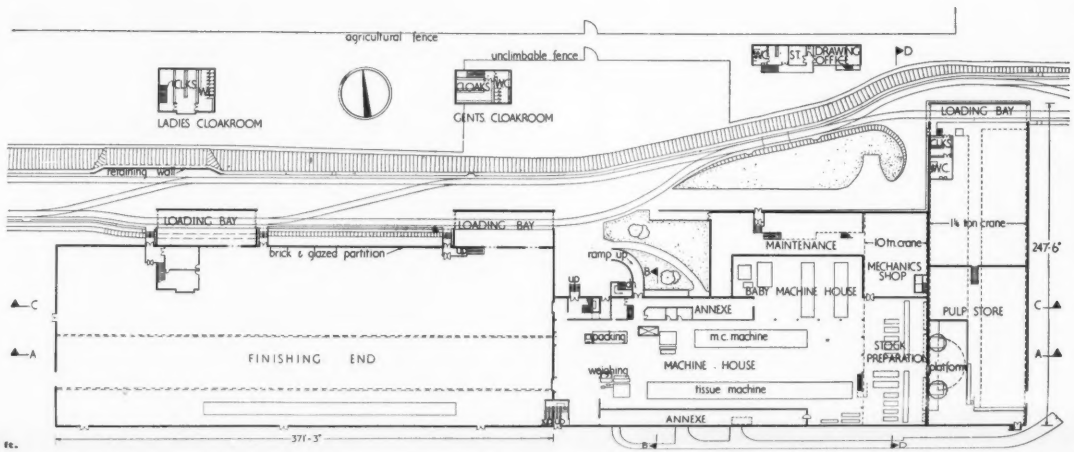
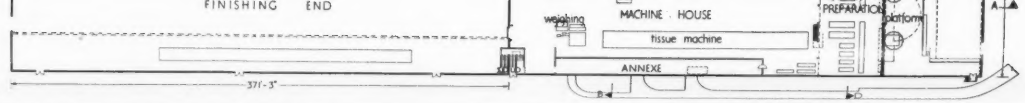


2, *looking south from the stock preparation area.* **3,** *the finishing end of the mill.*



ground floor plan scale: 1/128 in. = 1 ft.



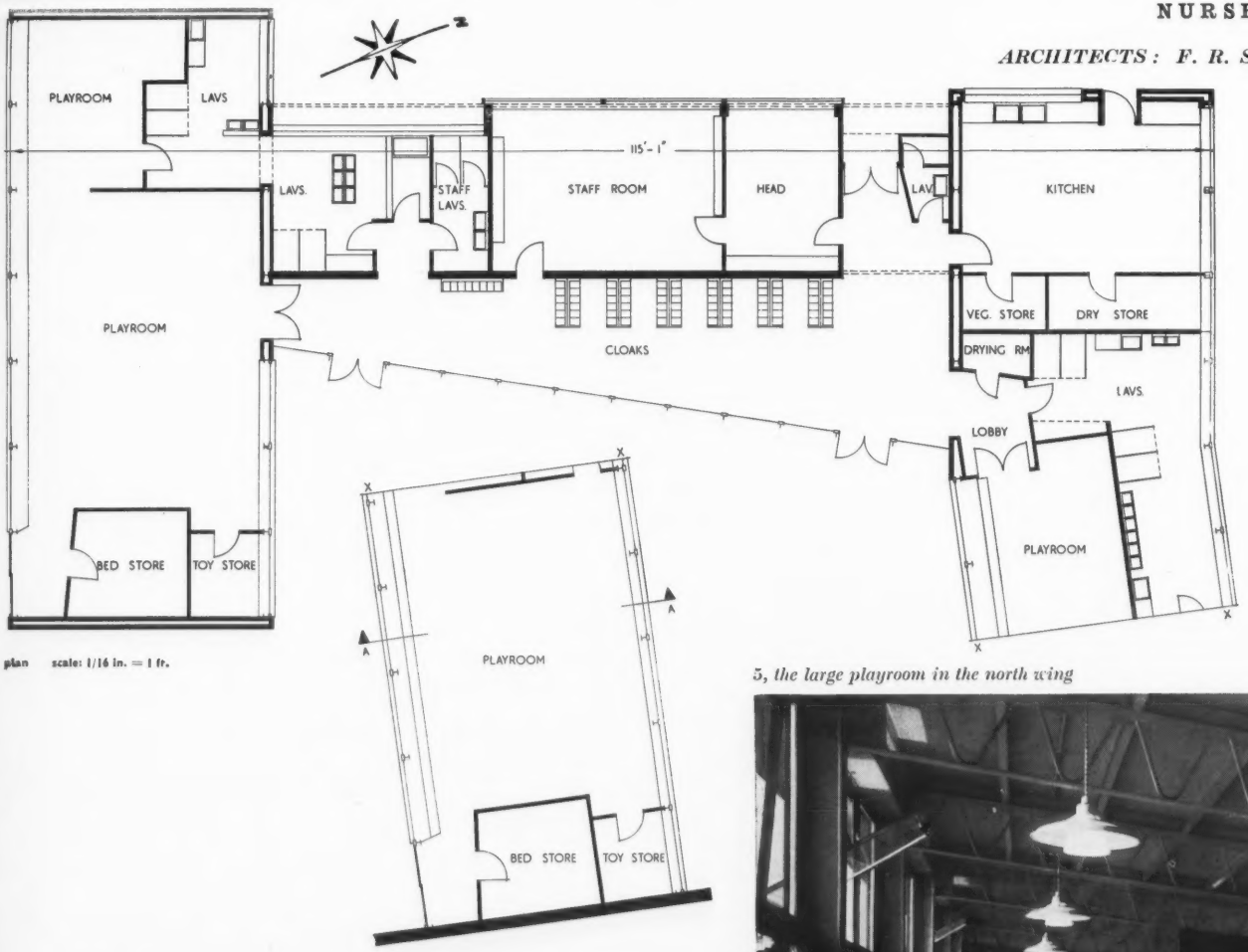
ground floor plan scale: 1/128 in. = 1 ft.

NURSERY SCHOOL AT POPLAR, LONDON

ARCHITECTS: F. R. S. YORKE, E. ROSENBERG AND C. S. MARDALL

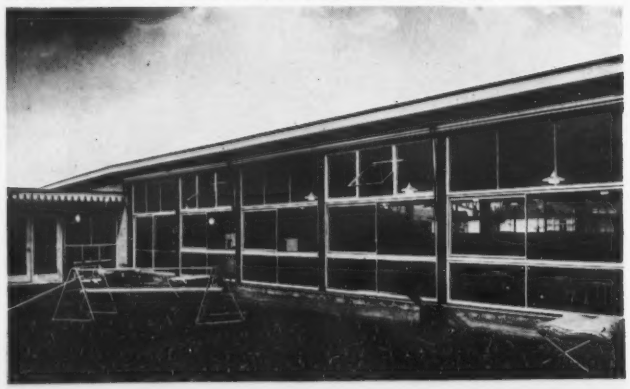
The nursery school in Ricardo Street, Poplar, which adjoins the primary school*, accommodates two groups of forty children in two playrooms. The nursery school is run independently of the main primary school except for services. Playrooms face south and the windows can be shaded with external striped roller sunblinds. A spacious blanket and bed store is attached to each playroom. The playroom blocks are built on an 8-foot 3-inch grid and constructed in light steel framework. Roofs have timber joists spanning between the metal beams. The administration block is built up of load-bearing brickwork with timber joists. Roofs are copper, fixed to strawboard, and ceilings are either woodwool or timber joists and strawboard left exposed. The administration block has a roof of three-layer bituminous felt laid on strawboard. External finishes are stock bricks, timber fascia, fibrous plaster soffits and a small area of tyrolean rendering. Internally, walls are either fair-faced, flint-lime bricks, cement rendered, lime plastered or papered with a Morris design wallpaper.

* Illustrated in AR, July 1951.

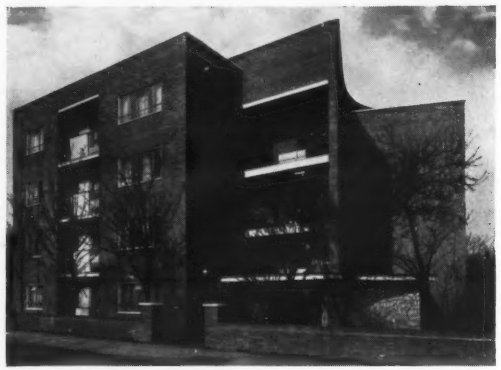


plan scale: 1/16 in. = 1 ft.

4, looking north-west with one of the playrooms on the right.



5, the large playroom in the north wing



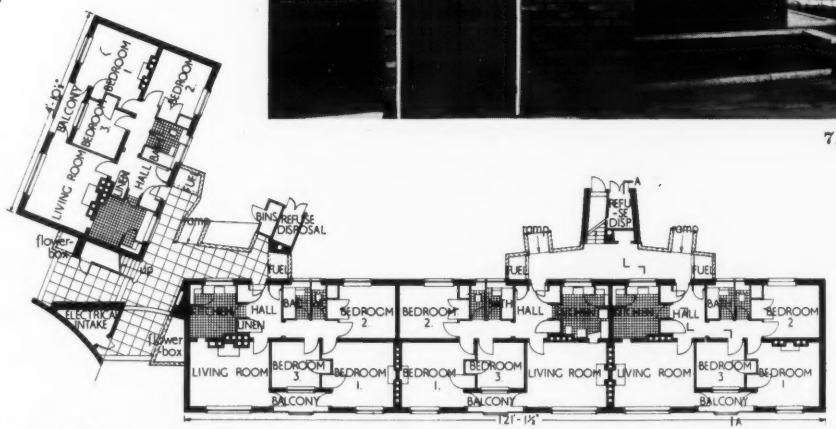
6, the main street elevation.

POLICE FLATS IN BRIXTON, LONDON

ARCHITECT: J. INNES ELLIOTT

Collinson House provides living quarters for married policemen and their families in 16 flats. An essential requirement was the segregation of the sleeping area of each flat from the living area and the provision of reasonably quiet principal bedrooms in view of the nature of a policeman's duties, which often entail night shifts and sleeping during the day. At the rear of the flats is a service road and an electric transformer chamber, pram store and drying area. The main elevations are faced with Ibstock salmon-brown bricks, while for the staircase towers and tank rooms the bricks are Buckinghamshire handmade, sand-faced, multi-coloured facings. The recessed private balconies are painted champagne colour and the balustrading white and blue alternately. The balustrading to access balconies and staircases is painted battleship grey.

7, the staircase link between the two blocks.



ground floor plan scale: 1/32 in. = 1 ft.

BOOKS

GOOD BAD ART

THE UNSOPHISTICATED ARTS. *Drawn and described by Barbara Jones. The Architectural Press*, 1951. 25*s*.

Some years ago the present writer attempted, half-humorously, to divide Art into four categories. These were:—

Good good Art.
Bad good Art.
Good bad Art.
Bad bad Art.

He contended that the first of these included 'Michelangelo, Velasquez and Rembrandt,' and, in general, the acknowledged masterpieces of the past. Perhaps enough has been said about these; it was certainly not his intention to say more. Bad good Art included all those well-meaning efforts to paint like Cézanne, or Matisse, or Picasso, which clutter the walls of so many modern exhibitions. Bad bad Art need not detain us. But Good bad Art—all those charming trifles like Valentines, fashion plates, tinsel pictures and 'Presents from Eastbourne'—was a category worthy of study, for in it was to be found much which was not only delightful in itself but redolent of its social epoch.

Starting from her different standpoint, Miss Barbara Jones has made herself a specialist in this particular field, which she prefers to label 'the unsophisticated arts.' The exhibition for which she was responsible at the Whitechapel Art Gallery was a revelation not only of the acuteness of her eye but of the size of her net. Now she has produced a book to explain what she is doing and to offer, through the medium of her own charming drawings, examples of what she has in mind.

Her material (and the list itself is impressive) includes: roundabouts (with their animals, payboxes, handrails, balustrades and organs), canal boats, houseboats, piers, bandstands and kiosks, drinking-fountains, rural seats, seaside bungalows, porches, tea houses and garden furniture, tattooing, confectionery (including wedding cakes and ice-cream cones), waxworks, ventriloquists' dummies, stuffed birds, automatic machines, clay pipes, Easter eggs, old advertisements, shop-signs, birthday and other greeting cards, Christmas tree decorations, hearses, tombstones and 'floral tributes,' and fireworks.

All these popular arts, Miss Jones contends, 'have certain constant characteristics. They are complex, unsubtle, often impermanent, they lean to disquiet, the baroque and sometimes terror.' The baroque element is particularly interesting and Miss Jones' handling of it is the measure of the intelligence she has brought to bear upon the whole problem presented by the popular arts.

'Having fun in a really big and splendid way,' she says, 'did not begin in modern times until the Renaissance, and the trappings of that fun naturally followed the æsthetic fashions of the day. When all the jollity percolated down from the courts to the common man, his less trained and subtle taste fastened firmly on the most elaborate and energetic of the available patterns and, with the addition of extra gloss and gilding, he produced a nice rich debased baroque. It held the field of popular entertainment, absolutely unchallenged by the gothic or classical revivals, until the second quarter of this century. Jazz and streamline have now almost replaced it.'

Some of the illustrations of this 'nice rich debased baroque' are quite enchanting, as, for example, the roundabout horse 'by Anderson of Bristol,' with its mane, forelock, buckles and scrolls in metallic gold, its bridle and front of throat in metallic red, a turquoise border around the scrolling, and a 'royal orange' outline to the saddle. The whole thing rises and falls on a bright brass bar like a stick of barley sugar—or the pillar of a baroque porch. A paybox, green, with gold carving and lined with scarlet, is like a Manoelesque pulpit; a carved and painted peacock is worthy of the throne-room of a Siamese prince.

Equally beautiful is the decoration of a canal boat cabin, bright yellow and adorned with roses and castles, such, for some strange reason, being the traditional themes. Houseboats are not, in general, so rewarding, but Miss Jones has unearthed some notable specimens. But it is impossible in a short review to do justice to Miss Jones' untiring zeal. The element of horror, justly noted, is reached when we come to the automata, some of them as frightening as devil masks. And what could be more ghastly than the process of 'recovering' a waxwork? 'The head is tapped over the left temple with a hammer and instantly cracks across the line of the eye sockets. The whole face falls away, leaving the glass eyes staring in the top of the head. These are expensive and so are removed and sorted into little trays. When there are enough discarded heads, the wax is melted down again, and the hair and colour sink to the bottom of the pot.' After this, death—and its artificial wreath—holds no terror. Miss Jones is to be congratulated on an excellent piece of work.

James Laver

NEW PICTURESQUE

LANDSCAPE FOR LIVING. *By Garrett Eckbo. Architectural Record: New York.* $10.

Mr. Eckbo has a considerable reputation in the USA as a lively modern-minded designer, and his purpose in this book is to show how landscape design—it is interesting to note that he too dislikes the term landscape architecture—should be given contemporary interpretation. His is not an original point of view; but he has much to say that is stimulating and enlightening, and with an authority derived from an enviably extensive professional experience. Unfortunately his valuable ideas are so embedded in verbiage and his train of thought so often discontinuous or incoherent that the reader is likely to be wearied and confused. Though in fairness to the author it must be remembered that, as he says, the book has been produced 'in the midst of active professional practice and active professional teaching.'

Rightly saying 'there are no rules of form, only principles of approach,' and taking his cue from contemporary thought in other arts, especially in the most closely allied of them, he finds three main principles: the art of three-dimensional organization of space, serving the needs of the whole community, and using the 'native quality and potential of the material.' Although the 'space' concept is a continuous current in his argument, the 'living' concept is scarcely more than stated. This latter is, perhaps, inevitable; for what, in a typical phrase, he calls 'the scientific evaluation of maximum human livability' is still lacking. It is the implications of the third principle which the book most usefully elaborates.

Mr. Eckbo recognizes the inadequacy of verbal theorizing and devotes nearly half the book to photographs, plans and sketches. It is a pity that, with so much space at his disposal, he should illustrate almost exclusively the work of his own firm. There are other designers in the USA whose work would be equally interesting to see and equally relevant to the modernity of the theme—Tunnard and Thomas Church for examples.

Of all the arts, landscape design, so much a matter of site and setting, can least be evaluated merely from photographs and drawings: but as far as one can judge, though in his designing there is a freshness and ingenuity (as in his use of baffles to subdivide space without destroying spaciousness), Mr. Eckbo seems to have been so zealous in avoiding the clichés of the academies that he may be fettering himself with clichés of his own devising. These he seems to have derived from too great a sympathy with modern ideas of abstract art. Though our eighteenth century Claude and Poussin imitations provide authority for pictorially inspired landscapes, it is questionable whether in an art whose medium is fundamentally organic and whose frame is the semi-natural landscape the paintings of, say, Mondrian or Ben Nicholson can be so directly emulated with the same success, except within the rigid boundaries of small enclosures. In any case, with such concentration on pattern as appears in many of the plans illustrated, what happens to the concepts of space and living?

One final quotation: 'We are still met with the stale criticism—too busy or too complicated.' This book and these designs have many merits; but even though a criticism may be stale, it is not necessarily without justification.

Peter Youngman

NORWICH GLASS

THE NORWICH SCHOOL OF GLASS-PAINTING IN THE FIFTEENTH CENTURY. *By Christopher Woodforde. London: Oxford University Press. 42s.*

The Chaplain of New College has probably forgotten more about English stained glass than almost anyone else has ever known. Among scholars of this subject he is now *facile princeps*, and his new book is a really remarkable achievement.

There is, unfortunately, scarcely any stained glass in Norfolk of the thirteenth century and not very much of the fourteenth; but from the fifteenth century, although only an infinitesimal portion of the original output survives, there are nevertheless close on a hundred churches in Norfolk alone with remains worth recording, besides glass from Norwich workshops in other counties, notably Suffolk. About half this book is devoted to a detailed description (112 pages) of the surviving fifteenth century glass in five churches—St. Peter Mancroft at Norwich, East Harling, North Tuddenham, Ringland, and Long Melford in Suffolk. Dr. Woodforde was able to study most of this glass at close range while it was out during the last war, when fortunately much of it was also photographed. His account is thorough almost to a fault, and is the repository of a formidable erudition: sufficient, for instance, for a slightly unusual subject to crop up, such as the *Te Deum* at East Harling, for him to cite examples of this subject not only in other windows but in a variety of other media also. Later in the book the appearance of a set of the Labours of the Months prompts descriptions of the remains of other sets in windows all over England. These are but two examples of his thoroughness: and for students not only of stained glass but of such subjects as iconography or the Christian legends, this book contains a wealth of learning.

The less specialized reader, however, will find parts of the latter portion of the book more readable, including a melancholy but very interesting final chapter on 'Destruction and Loss.' Some will be not a little delighted by a learned dissertation on the clothing of angels. At Shimpling, we are told, one angel wears 'a skirt of large feathers from which hang bells alternating with oak-leaves,' and others wear tippets or capes of ermine, as on the upper part of the famous screen at Ranworth.

The Norwich style can be identified fairly readily by a student of stained glass, in particular from the recurrence of certain details, such as the 'ears of barley' ground, and of distinctive background and quarry patterns, which are fully analysed. It is not easy, however, to convey in a few words the special character of this Norwich glass. Though none of it is on a notably high level artistically, and, as usual with fifteenth century glass, it is but rarely decorative, it shows a welcome freedom from the affectation of some contemporary work, and suffers less than most glass of the Perpendicular period from the fault of 'running to canopies.' On the whole it does display, as Dr. Woodforde observes, 'a bracing strength and vigour which well accord with the Norfolk climate and character.'

The book is admirably produced, with forty-four excellent plates, some from the author's own photographs. One minor criticism: it would have been helpful if references to the plates had been inserted in the text. On the other hand, the nineteen-page index is a model, which will greatly add to the book's usefulness.

Alec Clifton-Taylor

Books Received

BAU-ENTWURFSLEHRE. By Ernst Neufert. Verlag des Druckhauses, Templhof, Berlin.
THE FRESCO CYCLE OF S. MARIA DI CASTELSEPRIO. By Kurt Weitzmann. Princeton University Press (Geoffrey Cumberlege). 63s.
HANDBUCH FUR DEN NEUEN KRANKENHAUSBAU. By Paul Vogler and Gustav Hassenpflug. Urban and Schwarzenberg, Munchen, Berlin.
LOST CITY OF THE INCAS. By Hiram Bingham. Phoenix House. 21s.
WRITTEN BY HAND. By Aubrey West. George Allen and Unwin. 7s. 6d.
OLD PARISH CHURCHES. By N. E. Boyle. Skeffington and Son. 4s. 6d.
SPON'S ARCHITECTS' AND BUILDERS' PRICE BOOK, 1951-1952. E. and F. N. Spon. 18s.
COLOURS AND WHAT THEY CAN DO. By Louis Cheskin. Bedford Press. 17s. 6d.
TIMBER BUILDING IN ENGLAND. By Fred H. Crossley. Batsford. 30s.
THE ART OF WYNDHAM LEWIS. By C. Handley-Read. Faber. 42s.
ANATOMY FOR INTERIOR DESIGNERS. By Francis de N. Schroeder. Whitney Publications, Inc. $4.00.
DRAMA. By James Laver. Studio. 30s.
EARLY STAFFORDSHIRE POTTERY. By Bernard Rackham. Faber. 25s.
THE ART OF SEEING ART. By Matteo Marangoni. Shelley Castle. 36s.

HISTORY

ONCE MORE LEONARDO DA VINCI

The best birthday token to commemorate the fourth centenary of Leonardo da Vinci comes from Göttingen. In the *Nachrichten der Akademie der Wissenschaften in Göttingen* (1952, I, p. 1, etc.) Dr. F. Babinger and Professor L. H. Heydenreich publish a remarkable discovery, a document in Turkish kept at the Record Office of the Top-Kapu Seraj at Istanbul which turns out to be an application, dated c. 1503, from Leonardo to the Sultan Bajezid II.

The document runs as follows: 'Copy of a letter sent by an infidel called Lionardo from Genoa.

I, your servant, have, when thinking about the problems of mills, with the help of God, found a means by which I can apply an artifice and make a mill working without water and only with wind, so that one can contrive it with less than a mill at the sea. It is not only more convenient for people but also works wherever it happens to be placed. Furthermore God—His name be praised—has given me an idea how to bale, with an artifice, water out of a ship without rope or cord, by means of a machine turning on its own.

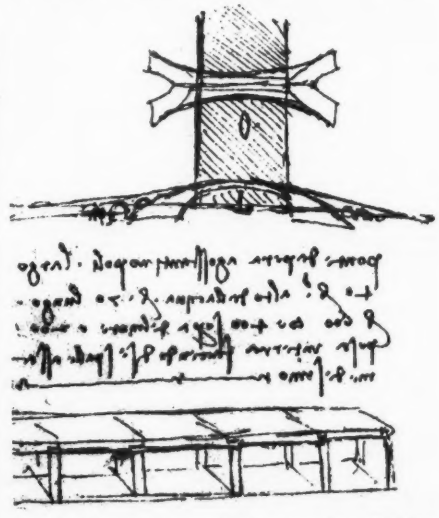
I, your slave, have heard that you intend to build a bridge from Galata to Istanbul, but that it has not been carried out, because no expert could be found. I, your slave, know how to do it. I shall do it with one arch so high that nobody will be willing to walk across because it will be so high. But I have thought out that I shall make a wooden casing, then extract the water and put it on pales. Thus I shall make it possible that ships with their sails up can pass underneath.

And I shall build a drawbridge which will enable those who so wish, to get to the coast of Anatolia. But since water is always in motion, the wall will be damaged. For that reason I shall with an artifice make water flow out below so that no damage is done to the walls and Sultans succeeding you can maintain it with small expense.

If the Lord so wills, you may believe these words and give orders, knowing that this your servant is always at your service.

This letter was written on the 4th of July. It is now four months old.'

Not everything in this letter can be understood. But it is a fact which was known before that the Sultan, indeed, intended to build a bridge across the Golden Horn. Michelangelo, as a matter of fact, also, probably in 1506 or a little earlier, had intended to go to Istanbul and undertake the work. In addition a drawing exists and had long been known (Institut de France, Codex L) which shows a one-



arch bridge and says in the caption: Bridge from Pera to Constantinople, 40 braccia wide, 70 braccia high and 600 braccia long, that is 400 over the sea and 200 over the land, buttressing itself. The 600 braccia amount to more than 1,000 feet, the height to 120, a fantastic size for an arch at that time. Leonardo had thought out a system of V-shaped approaches at each end which would have helped considerably to hold up the arch. This has indeed been used in the construction of bridges since, but with the means available in Turkey about 1500, such a bridge could certainly not have been built.

The interest of the letter and the project is hardly impaired thereby.

N.P.

DESIGN REVIEW

'TOMORROW'S FURNITURE' AT THE ICA

If this exhibition is a good indication, and most of the up and coming furniture designers were represented, then tomorrow's furniture idiom is already based firmly on formed plywood and steel tube or rod. The tendency to use these materials was particularly evident in the chair designs, of which nine were included out of a total of seventeen exhibits. In seven of these designs lengths of steel tube or rod welded together were used for the chair frames and legs. In contrast, Ernest Race and Geoffrey Dunn, the two designers actually in the furniture industry, although using plywood, avoided steel tube.

The exhibition was organized by the Institute of Contemporary Arts and the material collected and arranged by Toni del Renzio. Some sixty designers were invited to submit designs for contemporary furniture in the prototype stage, with the emphasis laid on invention and innovation. The entries were ultimately reduced to exhibits from thirteen designers, most of them already quite well known. On the whole, the exhibits were on the thin side and it looked as though the organizers may have come up against what would be a very natural reluctance on the part of established designers to putting their latest ideas in the shop-window at the prototype stage. This probably accounted for the notable absence of several outstanding newcomers such as Terence Conran and Bernard Schottlander.

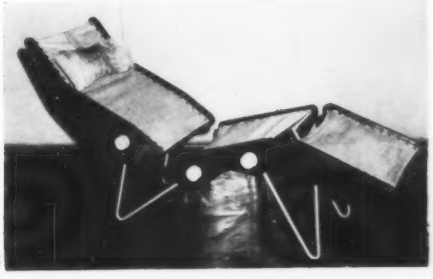
It was evident that designers' ideas differ as to what the prototype stage is, for by no means all exhibits were in the same stage of development. It is, therefore, unfair to indulge in comparative criticism. Assuming, however, that a prototype is a hand-made model developed to the stage just prior to quantity production, some really were prototypes and others were little more than visual adventures in shape, without much thought being given to problems of production and cost or even to stability.

Taking individual examples, the Robin Day easy chair for Hille & Co. is practically in production and looks to be as good a design as his Festival Hall one. His rope chair, on the other hand, is clearly no more than a mocked-up idea. The Race chair, 1, designed for people who like to drape themselves over chairs, appears to be at an 'in between' stage of development, though obviously worked

1

out by someone who expects to make chairs and have them sat in.

The adjustable chaise-longue, 2, by Clive Latimer (also for Hille & Co.) looked very promising because its leg structure is intelligent and its shape is easy and logical, but its adjusting mechanism seemed to demand more development.



2

The terrace chair by Trevor Dannatt and the upholstered one by Dennis Young, though they may not break new ground are more satisfying chairs than either the design by Frank Guille, which is rather laboured in its effort to utilize all-plywood construction, or the small chair by J. D. H. Catleugh in welded tube and foam rubber which, with something like ten welds, will surely be uneconomic to produce.

Of the bookshelf-cupboard units only the all-wood one by Geoffrey Dunn, 3, and the

3

duralumin tube (without welds) and mahogany design by Clive Latimer, looked as though they would really hold books. The yew and Bowden-cable design by Geoffrey Dunn, 4, was fun—but hardly

4

stable enough either for books, plants or treasured glass and china.

But it is so easy to tear a design to bits for being something that it was never intended to be, and it would have been fairer if each design had had some indication, not only of what the exhibitors were asked to do, but also what each designer was after, the stage which each design had reached and what the designer proposed to do next.

H. McG. Dunnett

TOWNSCAPE

THE PERFECT SYMBOL

The arrow might be called the perfect symbol: not only is it universally used and of immediately intelligible meaning, but its irreducible components, barbed head and shaft, lend themselves to an infinite variety of treatment without losing in recognizability. If proof were needed that functionalism does not imply standardization, it could be found in the collection of arrows presented here. Each one is different; yet he would be a bold man who would pronounce that any one is 'more functional' than any other. The fact of the matter is that in symbols—and, of course, the letters of the alphabet are included in the term—functional saturation point is soon reached; the final details are settled by taste and sensibility alone. In the case

of the arrow functional saturation point is reached so very soon that taste and sensibility are left with a great deal to do; and this prompts the reflection that if someone wanted to write a really fundamental work on the processes of artistic creation, taking in such questions as the relationship of nationality and art, he might do far worse than base it on a study of the arrow symbol as found throughout the world. Meanwhile, here is a key to the location of the specimens now displayed, with some of the thoughts they inspire.

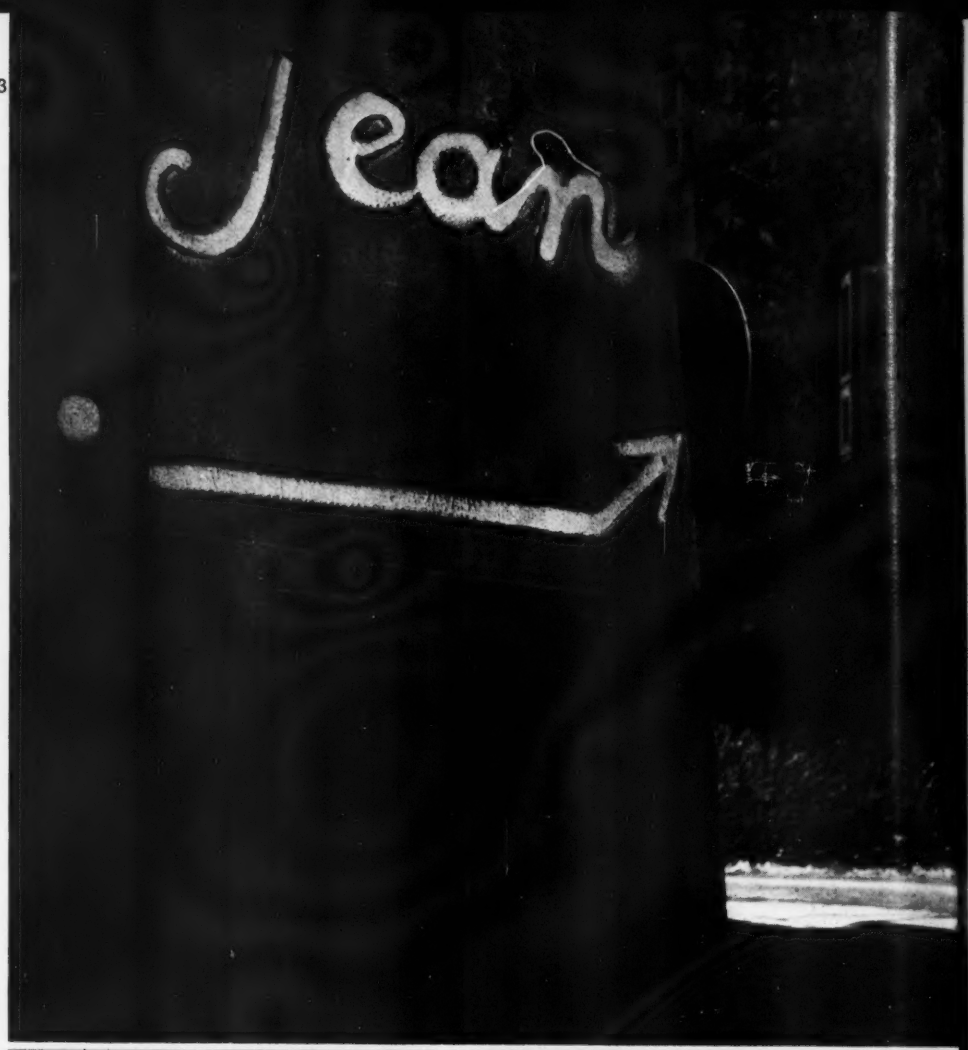
1

1: at Harlingen, Holland. This sort of arrow began with Paul Klee, didn't it? The equivalent of sans serif. 3, St. Tropez, France: obviously French, but why? 4, St. Tropez again. The very antithesis of 1—Mannerist, if anything ever was; note the conceit of painting it round the drain pipes, and the trident-like feather with its suggestion of the drawn bow. 2: Exeter,

2

England. Taking a corner in the English manner; the wake of a battleship rather than the sharply wheeling column of soldiers in 3. 5: Sunderland. Swift and

3



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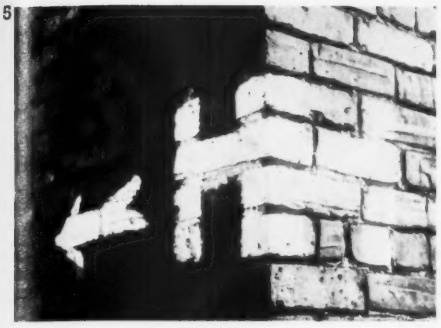
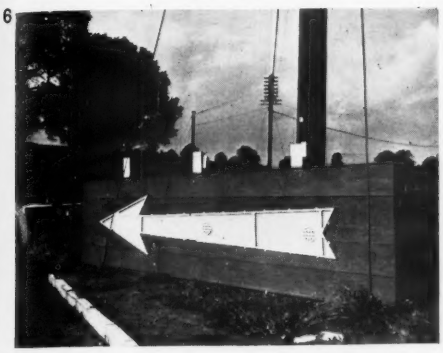


mysterious and just leaving the bow. 6:

6

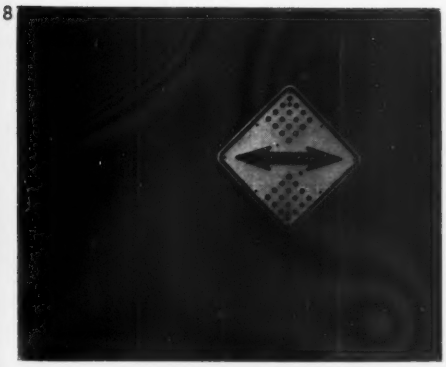


between Taunton and Exeter. You disobey at your own risk, obviously. 7: between

7

Waterford and New Ross, Northern Ireland. Realism reaches the feather. 8: Southampton, Long Island, USA. Bust

8



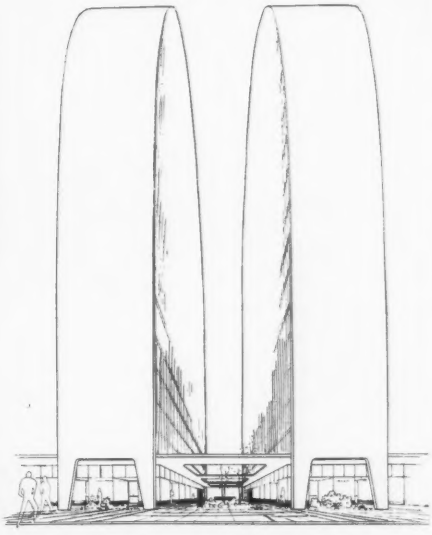
atoms, and your arrows can fly two ways at once, and how much more effective; it positively makes you turn your head both ways. R.M.

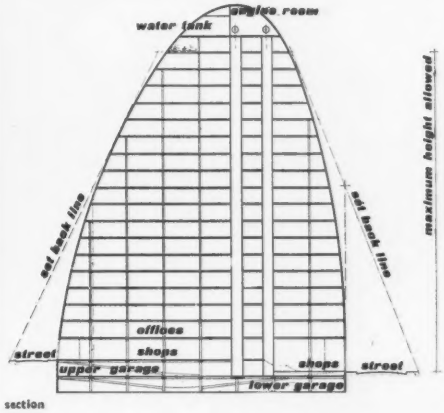
WORLD

OFFICE BUILDINGS IN SAO PAOLO

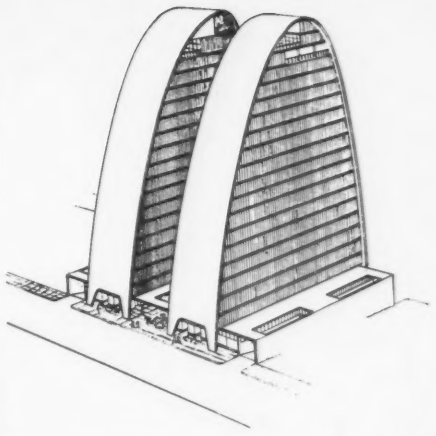
Rino Levi, architect of this projected office building for the Sao Paolo National Life Assurance Company, gives three main reasons for the unusual shape he has chosen. They are 1, the reduction of wind resistance; 2, the avoidance of the technical limitations imposed by stepped setbacks and 3, the elimination of the problems that arise in the design of flat roofs. The two structures, sited at right angles to the main road, are of irregular parabolic profile and forming tangents to the required setback lines shown in the section. The apex of each building which rises above the maximum permitted height houses elevator machinery and water tanks. The plan provides three open spaces giving on to the existing road, the centre one of which is a shopping arcade, shown in the drawings below and right.

Altogether there are 20 floors with two basement storeys planned as parking

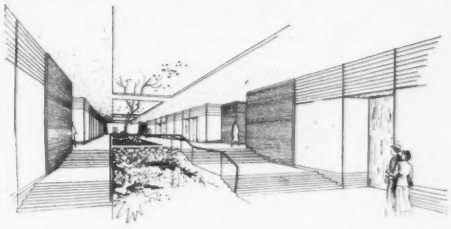


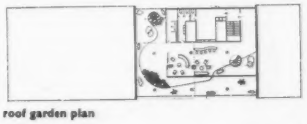


section

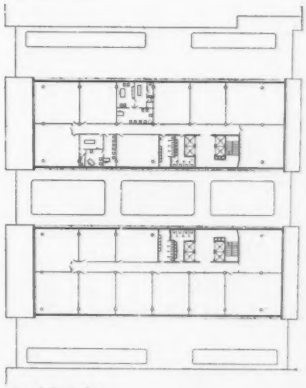


space for 200 cars. These parking spaces are reached by four sloping entrances, two for each road, thus allowing one-way traffic circulation. The structure is of reinforced concrete and the curved exterior is intended to be faced with copper sheeting. The façades are fully glazed and protected by brise-soleil.





roof garden plan

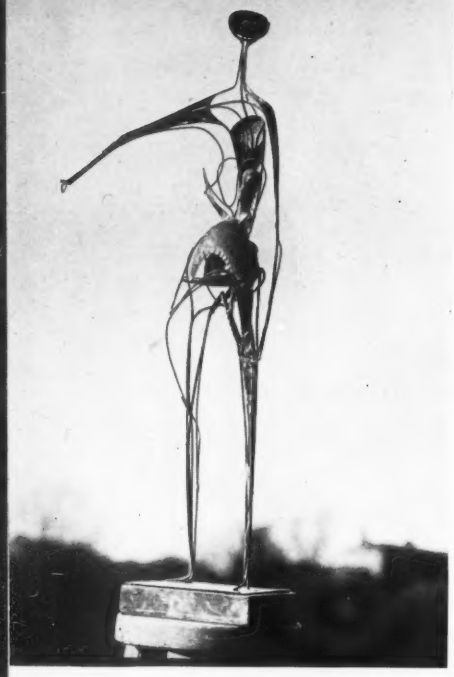


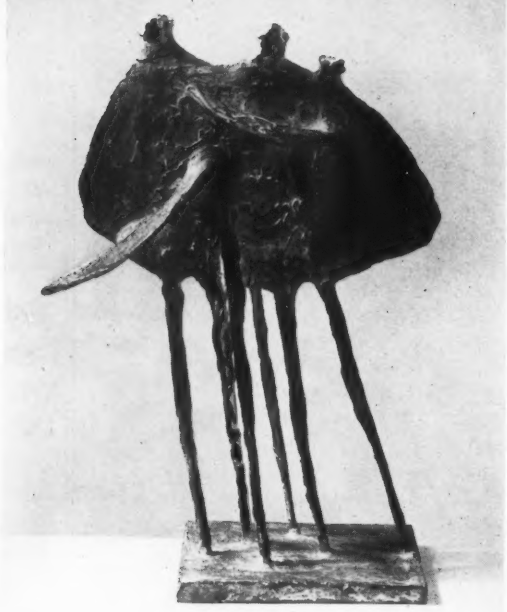
ground floor plan

EXHIBITIONS

ENGLISH SCULPTORS AT VENICE

Eight of our younger sculptors, exhibiting in the 26th Biennale, which opened on June 14, have found an





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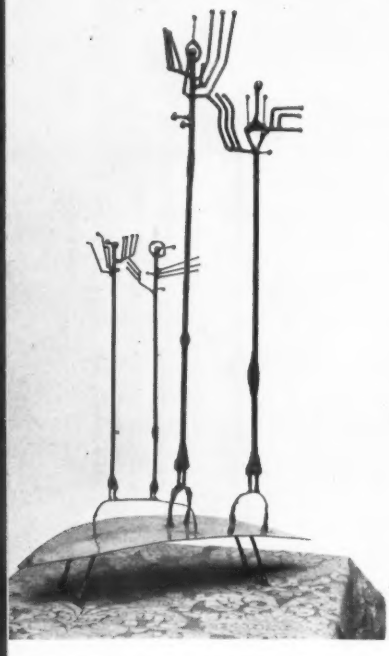

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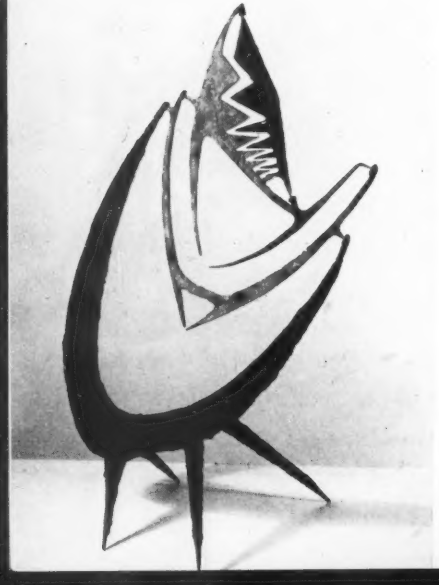

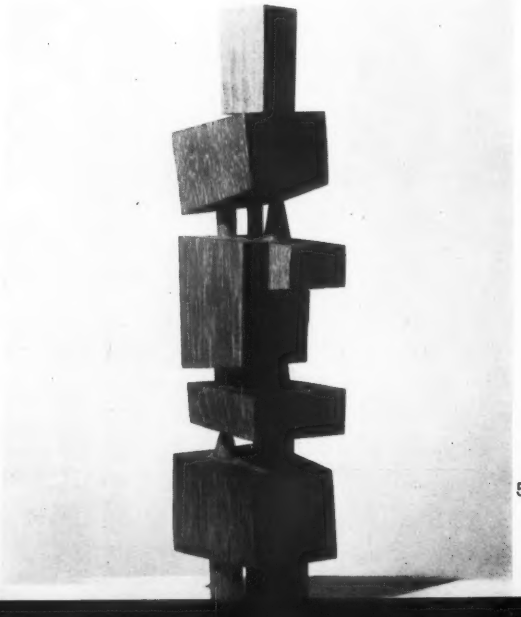

5,6

ideal setting for their work in the sculpture bay of the British Pavilion.

This pavilion was erected for the Venice Biennale several years before the first world war and is probably the most unostentatiously and gracefully functional building in the Giardini. The long narrow gallery with a fine curved sweep of window runs almost the entire length of one wall, and overlooks a tangle of sub-tropical vegetation to which many of the sculptures are related by reason of their stem-like and leaf-like abstract elements.

But the major reason for the outstandingly effective part which the British Pavilion is playing in the present Biennale is the British Council's wise decision to devote the main rooms to a retrospective of the paintings of Graham Sutherland instead of to an old master. It is the biggest and most imposing exhibition of Sutherland's work ever held and will be a revelation even to those who already believe him to be an artist of international stature. It reveals a powerful and profoundly integrated pictorial vision; it also reveals more clearly than hitherto the very strong influence that Sutherland has had on the group of sculptors who share the Pavilion* with him, a selection of whose work is illustrated here.

1, Reg Butler's 'Woman Standing' is a typical example of his smaller studies in open-work construction, but his most important piece in the Biennale is a large reclining figure, which is distinguished by the most plastic use of iron achieved in recent times. 2, one of several fascinating, long-legged groups of walking women exhibited by Kenneth Armitage. 3, 'Family Group,' by Geoffrey Clarke, who uses a private sign language for traditional themes. 4, Bernard Meadows, who obtains sinister abstractions from the observation of predatory crustaceans, exhibits this bronze 'Crab.' 5, Lynn Chadwick shows this sculpture in iron and concrete; its balanced interior forms are dictated by his primary concern with mobiles. 6, 'Divided Pillar,' by Robert Adams, who stands somewhat apart from the others; he is not interested in movement and disturbance, and is in the line of the classical abstractionists. **R.M.**

* The huge Italian Pavilion—a rabbit-warren of partitions—is loud with the clash between abstractionists and social realists, and on the present showing it is difficult to feel much sympathy with either side. Guttuso contributes a battle-piece of heroic proportions, with a communistic message and a blood-coloured background. It is not a likeable picture, but it is a more successful exercise than Picasso's 'Murder in Korea' in a *genre* that has fallen into disrepute. The most serious work on the abstract side is Mirko's model for a pair of bronze gates: the thick, slow, undulating design has a kind of massive Roman grandeur. The battle of the styles is continued in the French Pavilion, with more refinement but less spirit.

Of greater interest are two large groups of works which take stock of past movements. The most didactic is the Dutch exhibit of *De Stijl*, containing some very curious furniture designed under the influence of Mondrian's geometrical paintings. The most interesting is the German Expressionist group called *Die Brücke*: it includes superb paintings by Nolde and Kirchner, and our public galleries are one day going to regret their almost complete neglect of twentieth century German painting.

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ANTHOLOGY

CE BÊTE L'ORDRE

I have seen the Channel again and been across; last time I saw it was at Trouville, coming back from Brittany four years ago. Although the happiest moments of my youth were spent breathing in its odours and sleeping on its shingle, all my real affection is for the Mediterranean; above all I love its colour and its calm—with all due deference naturally to poetical people who prefer tempests. We went for a walk to Highgate Cemetery. What an abuse of egyptian and etruscan architecture. How clean it all is and carefully laid out—as though the people died with white gloves on. I loathe the little gardens around the graves with their carefully hoed flower beds and withered flowers. This antithesis has always seemed comparable to my mind with the most debased kind of literature. The kind of cemeteries I really like are dilapidated, ruined and laid waste; overgrown with brambles and tall grass and with a cow that has wandered in from the next field to graze peacefully. That's infinitely better than having a policeman in uniform. The stupidity of order! that is to say disorder—because that is what they almost always call it.

GUSTAVE FLAUBERT, *Correspondence*, 1851.

MARGINALIA

Architects in this Issue

1

Architect of The Clock Tower at Lansbury and Flats at Harrow and Nuneaton (see pages 80-89). FREDERICK GIBBERD, born Coventry 1908. Studied architecture part time at the Birmingham school, whilst articled to Crouch Butler and Savage. Came to London, worked for E. Berry Webber; set up in private practice when 22. Pre-war work includes flats at Streatham (Pullman Court), Crystal Palace (Park Court), Southgate (Ellington Court); nurses' home, Macclesfield. Built air-raid shelters first part of war, then joined AA school, two years as studio master, two as principal (notable students include Philip Powell, Hidalgo Moya, Geoffrey Powell). After this worked on pre-fab. designs (35,000 of his BISF houses were built); reconstruction of Appleby Frodingham steelworks; school for Birmingham; technical colleges, Kidderminster, Hull and Stourbridge; terminal buildings, London Airport; housing, Hackney, Harrow, Nuneaton, St. Pancras; market square, Lansbury. Worked, since 1946, on Harlow (population 80,000), on part-time basis; designed master plan and as Architect Planner is responsible for appearance. Lives in Highgate. Has son Geoffrey (6) and daughter Catherine (4). Hobbies: gardening, exploring towns and villages (Sicily last year), collecting modern English water-colours. Recreation: writing; pre-war books *The Modern Flat* (with Yorke), *The Architecture of England* (aimed at the architecturally indifferent public); latest, in preparation, *Town Design* (about the gap between master plan and detail design). Sits in on: Royal Fine Art Commission, Central Housing Advisory Committee, RIBA Council.

Architect of Colombo Exhibition, Ceylon—UK and SEAT Pavilions (see pages 102-107). MISHA BLACK, born in Baku, on the Caspian Sea, came to England when 1½. Formed what was probably the first industrial design group in the country (1932), with Milner Gray. The 1938 exhibition at Glasgow brought him to

2

grips with architecture. Team broke up with war but joined up again working in Design Research Unit, founded 1944 by Herbert Read. Now leads design team of 18, typographers to architects, willing to tackle anything from eggcups up; offices in servants' quarters of Edwardian mansion in Mayfair. He lives in the Adelphi. Greatest relaxation, working at home with a brandy and background of jazz. Recreation, rowing week-ends on the Thames with son Jake, 13, and daughter Julia, 9. Likes living in towns, his design (in collaboration with Alexander Gibson) of the Regatta restaurant, working on exhibitions. Dislikes going back to look at previous jobs. Collects anything to do with Crystal Palace and 1851 Exhibition (star item a clay pipe). Ambition to design ship's interior, a theatre.

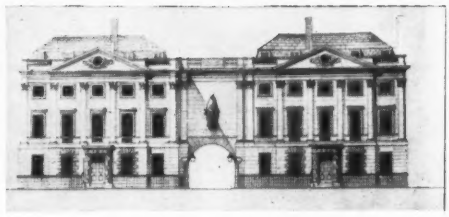
3

Architect of Van Riebeeck Festival Fair, Capetown, UK Pavilion (see pp. 102-107). SIR HUGH CASSON is at present engaged on three big jobs. First, a limited competition (Atkinson &

Anderson are the contending firm) for a layout of a 13-acre site for new arts faculties, near the University Library, at Cambridge. Second, the interior design of the Time-Life building (a miniature South Bank in Bond Street); is co-ordinating the work of some 15 designers, artists and architects, as well as doing some of the designing himself. Should be finished by Christmas. Third, has been appointed consultant to the City of Westminster for the Coronation decorations next year. Is just moving house, and finding its redecoration problems so difficult he is thinking of calling in an architect to tell him what to do.

Epstein Sculpture in Cavendish Square

The two eighteenth-century houses which form the centre of the north side of Cavendish Square, London, were severely damaged by bombing. Restoration is now nearly complete, and in the process a bridge has been built over the entrance to the mews that separates them, to link the houses on either side, both of which are occupied by the Convent of the Holy Child. The bridge, set back about 30 feet, is of stone, with pilasters and cornice to match those on the eighteenth-century buildings. The architect is Louis Osman. The blank wall of the bridge (which is lighted by windows on the other side, facing down the mews) is to be adorned with a



4, *drawing showing the proposed position of Epstein's figure of the Madonna and Child on the face of the bridge which now links the eighteenth-century houses on the north side of Cavendish Square. See note on this page and frontispiece to this issue.*

sculptured group of the Madonna and Child by Jacob Epstein, of which the full-size plaster model is shown as the frontispiece to this issue. A letter appealing for donations to help raise the money for having it cast in lead was recently published in *The Times*, signed by Sir Kenneth Clark, The Earl of Crawford and Balcarres, the Earl of Rosse and Sir John Rothenstein. The grounds for appealing to the public to assist a private institution to furnish itself with a work of sculpture, lie in the opportunity it offers of adding a distinguished work to London's outdoor sculpture and in the prominent position it will have. The centre of the new bridge closes the axis that runs across Oxford Street, formed by Hanover Square, Harewood Place and Cavendish Square.

Victorian and Edwardian Decorative Arts

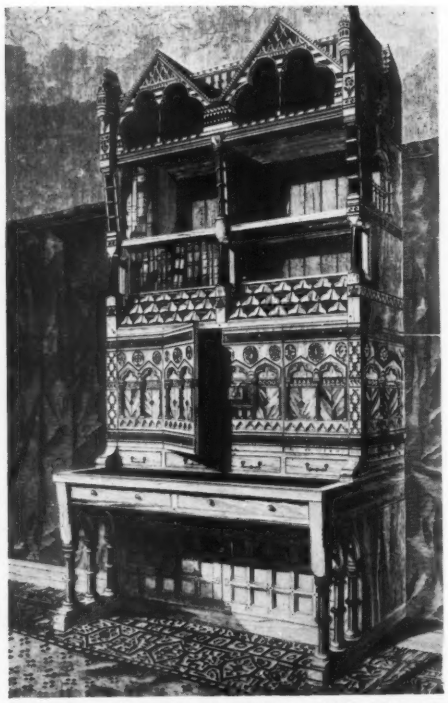
To celebrate its centenary the Victoria and Albert Museum is to hold a big exhibition in October consisting of original furniture and furnishings designed by the pioneer artists and architects active between 1837 and 1910. The preparation is proving difficult, as the material is very inadequately documented, and has almost all changed hands since it was originally produced. The Museum is still anxious to fill in gaps and Mr. Peter Flood, the organizer of the exhibition, has asked THE ARCHITECTURAL REVIEW to publish the following note:

'It has so far proved impossible to find even a single example of the work of two such influential designers as Matthew Digby Wyatt and Charles Lock Eastlake. Some of Wyatt's carpets, designed for Turberville Smith, must surely exist, and it is difficult to believe that every trace of Eastlake's furniture, produced by Heaton, Butler and Bayne, his textiles, produced by Cowlishaw Nicol, and his single very beautiful wallpaper, the "Solanum," have disappeared. No furniture designed by Norman Shaw has yet turned up, though there is evidence that he designed a good deal in his early days.

'Morris material still exists, of course, in considerable quantities, but even some of his rarer designs have disappeared. No piece seems to have survived of a beautiful wool tapestry called the "Elmcote" (was it called after some country house?), and the beautiful "Larkspur" silk damask is also missing. Presumably it is now too late to discover any of the early jewellery designed by Philip Webb, or the remarkable grand-piano decorated by Ford Madox Brown with scenes from "Lohengrin."

'Naturally, it is proving easier to assemble material designed by some of the individual designers

5



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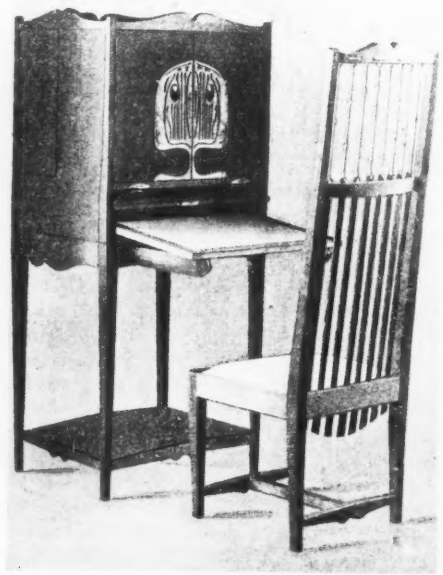

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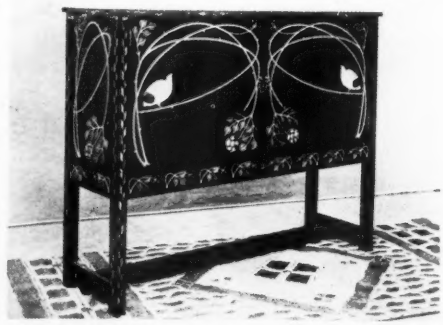

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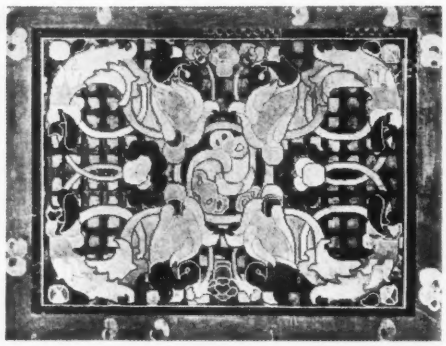

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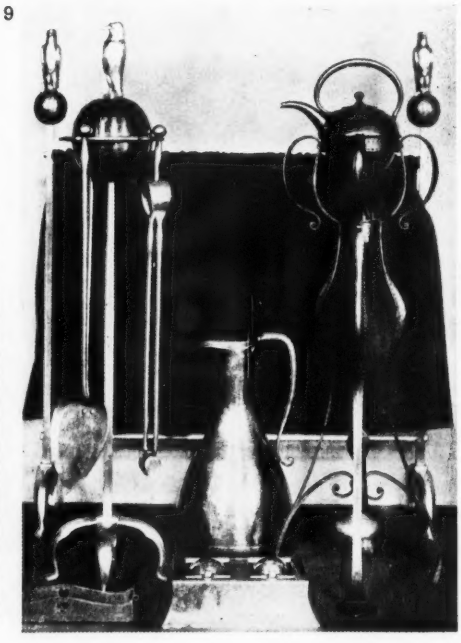
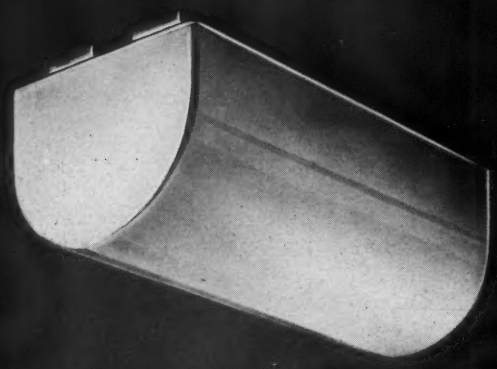
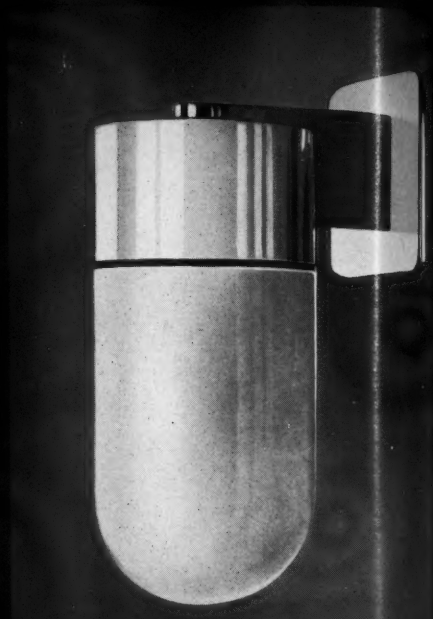


WANTED BY THE VICTORIA AND ALBERT MUSEUM (*see note on this page*): 5, *'mediæval' combined writing table and bookcase, inlaid and painted oak, designed by R. Norman Shaw, made by James Forsyth: Great Exhibition of* 1862. 6, *writing table and chair designed by J. Herbert McNair (associate of Charles Rennie Mackintosh) shown Scottish Pavilion, Turin Exhibition,* 1902. 7, *carpet by Sir Frank Brangwyn for La Maison Moderne, Paris,* 1901. 8, *cabinet by M. H. Baillie Scott, made by J. P. White, Bedford,* 1904; *cabinet of oak stained dark bronze green, design in pewter, mother-of-pearl and inlaid coloured woods stained pink, blue and soft green (rug also Baillie Scott).* 9, *metalwork by C. F. A. Voysey, Arts and Crafts Exhibition,* 1903.

J.7H Flush. Bracket Recessed. Finishes: chromium and off-white. Glass: white flashed opal. Lamp: up to 60 watts. Socket: 2-amp 3-pin. Switches: 5-amp for lamp and socket.



U.100 Ceiling. Trough. Finish: cadmium. Glass: white flashed opal. Lamp: up to 60 watts.



U.22 Bracket. Well-Glass. Finish: chromium or coinage bronze. Glass: white flashed opal. Lamp: up to 60 watts.

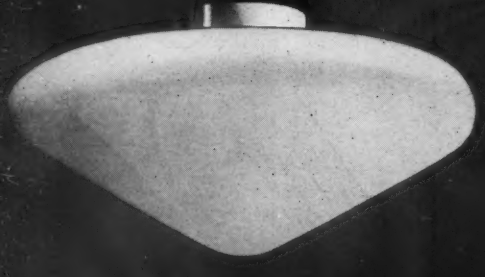
The high efficiency of ULTRALUX Lighting Fittings is the result of constant research and experimental work. Several new designs have now been added to this comprehensive range. Easy to instal and maintain, these new fittings will enhance the fine reputation of the UTRALUX range. Illustrated here are just a few of the designs. The complete range can be seen at the Lighting Centre in Knightsbridge, where you can also see our other ranges, Tubalux (fluorescent) Versalite and Mondolite.

TROUGHTON & YOUNG (LIGHTING) LIMITED

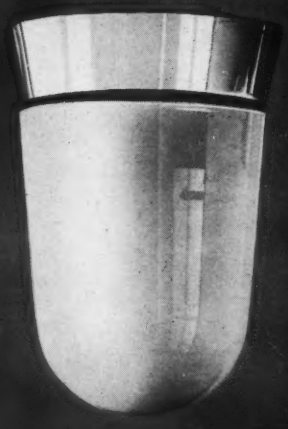
The Lighting Centre

143 KNIGHTSBRIDGE, LONDON, S.W.1. TELEPHONE: KENSINGTON 7457 (15 LINES)

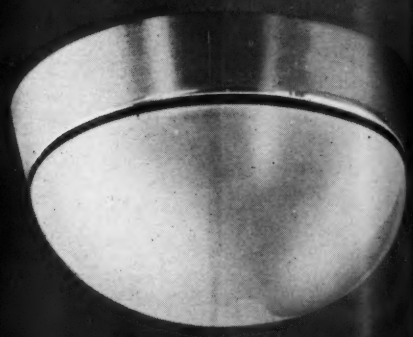
U.27 Ceiling. Conical. Finish: chromium or coinage bronze. Glass: white flashed opal. Lamp: up to 150 watts.



U.6 Ceiling. Small Conical. Finish: chromium or coinage bronze. Glass: white flashed opal. Lamp: up to 60 watts.



U.4 Ceiling. Bowl. Finish: chromium or coinage bronze. Glass: white flashed opal. Lamp: up to 60 watts.



written up by Professor Pevsner, such as E. W. Godwin (though his wallpapers are still missing) and Christopher Dresser; though the more obscure free-lance designers such as Thomas Jeckyll, the Japanese enthusiast, and Agnes and Rhoda Garrett, the pioneer women interior decorators, are proving extremely stubborn.

'The most unexpected gap is in furniture designed by the leading trade designers of the 1870's and 80's, such as Bruce Talbert, H. W. Batley, Charles Bevan, and others. Some of their massive bureaux and chiffoniers must surely survive, but they are exceedingly difficult to discover.

'Of the more recent architects, Lethaby and M. H. Baillie-Scott are very elusive. What has become, for example, of the furniture designed by Lethaby for Marsh, Jones and Cribb of Leeds in the late 1880's, or the fire-dogs which he designed for Henry Longden? The material designed by Baillie-Scott in his early Isle of Man days has practically entirely disappeared, and it has not yet even been possible to establish who produced his textiles, wallpapers, and carpets.

'Furniture designed in the early, revolutionary, phases of their careers by such recently deceased architects as Walter Cave, R. S. Lorimer, and Reginald Blomfield has so far proved untraceable, and the same must be said of the extremely interesting wallpapers, embroideries and Madras muslins designed by Harrison Townsend.

'Fortunately the work of the Glasgow School, owing to the energy of a few devotees, is now well documented, though even here there are extraordinary gaps, and a really intensive search in Glasgow and Liverpool has yielded almost nothing designed by the McNairs except a single pair of silver sugar-tongs! Voysey has proved a little easier, except that none of his remarkable embroideries, executed by Mrs. Reynolds-Stephens, can be found.

'The last, and most puzzling, gap concerns Sir Frank Brangwyn, for though he is, of course, still alive, we have completely failed to unearth any of his remarkable "art nouveau" rugs designed at the turn of the century, and only one example of his early furniture.'

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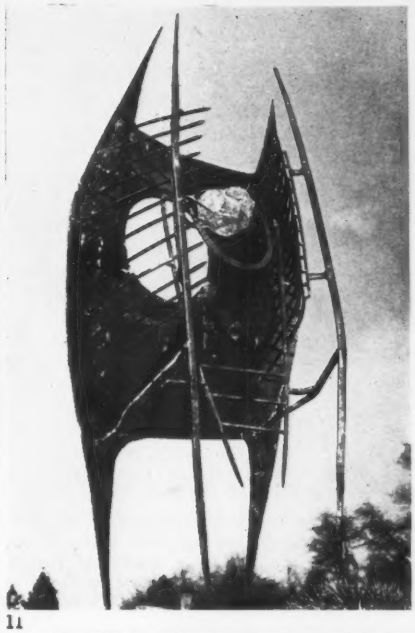

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10, Autumn Ride *by Ivon Hitchens* (*Leicester Galleries*); 11, The Inner Eye *by Lynn Chadwick* (*Gimpel Fils*); 12, Cavaliere Triangolore *by Marino Marini* and 13, L'usine *by Jean Metzinger* (*Hanover Gallery*).

EXHIBITIONS

Painting and Sculpture

First, a word about the Ravenna mosaics—that is, about the reproductions of fifth- and sixth-century mosaics in the sacred buildings of Ravenna, made by the artists of the recently formed Bottega del Mosaico in that city, which have been on show at the New Burlington Gallery under the sponsorship of the Arts Council. This was an exhibition which one approached with misgivings, one's mistrust of reproductions in general being fortified by the consideration that the effect of the original mosaics *in situ* is cumulative; surely it was a mistake to reproduce selected portions and hang them on walls like easel paintings. Nor were one's misgivings immediately dispelled on entering the exhibition; it was a shock to be confronted with works of art hitherto associated with the marvellous cool of an Italian church in the stuffiness of an English picture gallery. (Has anyone ever considered the temperature and humidity of the air as factors which modify our æsthetic responses—and which, therefore, should be studied and controlled by the architect on other than purely functional grounds?) Nevertheless, when one had got used to the whole idea of it and made up one's mind not to look for what it could not give this proved

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an extremely worthwhile exhibition, with the unique opportunity which it afforded of studying the extraordinarily subtle technique of the Byzantine mosaicist.

Secondly, Ivon Hitchens at the Leicester Galleries. This admirable painter has returned from his exploration of the human form to landscape and still life, and some of his recent landscapes, among them the *Autumn Ride* reproduced here (painted in 1951), are surely the best he has done. In certain of his very latest still lifes, such as the *Twelve Exercises on a Theme: Daffodils and Lilies*, he deserts his favourite dark browns, blues and greens for a range of colours pitched in a much higher key—perhaps a little to the detriment of the representation of the third dimension, which counts for so much in his landscapes. It will be interesting to see where this new development leads him.

Thirdly, Osbert Lancaster at the Redfern, with drawings ('topographical notes') from Greece, Italy, America and King's Lynn and designs (costumes and scenery) for the ballets *Pineapple Poll*, *Bonne Bouche*, and *Caprices*. Every visitor to this show knew that he could expect evidence of a lively wit and exceptional powers of observation; some may not have expected to find it allied with so large a measure of an important and nowadays underrated quality which can best be called craftsmanship.

Fourthly, next door to the Redfern at Roland, Browse and Delbanco an exhibition of

Expressionist painting. The term was interpreted rather widely, to include, for instance, Picasso's *Portrait of Lee Miller* (1937), a *Crucifixion* by Francis Bacon, and a *Rape of the Sabine Women* by Ceri Richards. Still, here too were Kirchner, Nolde, Pechstein, Beckmann, Schmidt-Rottluff, De Smet and Meidner—painters whose work there are few enough chances of seeing in this country—all sufficiently well represented.

Fifthly, at the Hanover a representative collection of paintings done between 1918 and 1930 by Jean Metzinger, together with recent sculpture, paintings and drawings by Giacometti, Moore, Marini and Manzu. A well-balanced show, of the high standard promised by those names. Marini's horsemen, however, seemed rather stylized in comparison with what we have seen of his before; can he have worked that theme dry for the present?

Sixthly and finally, Roger Hilton and Lynn Chadwick at Gimpel Fils. Hilton is an abstract painter of the non-architectural kind who achieves his somewhat limited objective in the prettiest possible manner. Chadwick's iron sculpture seems to the present writer to come from the head rather than the heart; but then it is something to have a head, after all. The centre piece of this show was the large *Inner Eye*, illustrated on the previous page. To read in the catalogue that *Bull Frog* was 'lent by Pembroke College, Oxford,' was as heartening as, in view of the taste in the visual arts of our older universities, it was astonishing.

Andrew Hammer

What's Open and When

The Ministry of Works season ticket scheme, which enables two people to visit any or all of the 500 buildings and monuments in its charge for the sum of £1 a year, has already been noted in these columns. In order that ticket holders may make the most of their opportunities, the Ministry has now hit on the excellent idea of presenting to each of them a booklet, *The History of Britain in Stone*, which gives a list of the buildings and monuments, a descriptive note about each, and particulars of hours of admission; it also contains some seventy photographs—small, necessarily, but none the less useful to the prospective visitor. Tickets may be bought direct from the Ministry at Lambeth Bridge House, London, S.E.1, from its headquarters in Scotland at 122 George Street, Edinburgh, or from travel agencies.

Until recently the country house visitor (new style) could refer only to the admirable list published in the *Burlington Magazine* to ascertain at what houses, and when, half a crown would gain him the *entrée*. Now, however, there are two pocketable books designed to help him on the market: *Country Houses Open to the Public* by Gordon Nares (Country Life, 5s.), and *Open to View* by Barbara Freeman (Ernest Benn, 15s.). The former was first published last year, but is sold with a leaflet bringing the practical information up to date; the historical and architectural notes are exactly what the REVIEW reader requires as an introduction to, or reminder of, the houses to which they apply. In all, 173 houses are listed, and that figure compares favourably with the 125 in the second book, *Open to View*. In general the latter, which comes in the familiar Blue Guide format and is illustrated with line drawings, is rather more 'popular' in approach; it has, though, two useful features not shared by its rival—a map of England showing the distribution of the country houses mentioned and sketch maps showing the approaches to each of them by road and rail.

M.W.

CORRESPONDENCE

Wirescape

The Editors,
THE ARCHITECTURAL REVIEW

DEAR SIRS,—The spread of overhead wires is a problem that I am coming up against constantly in a small way as chairman of an Area Planning Committee. Only recently I received a plan for an extension in my own village. I feel, however, that your contributor has overstated the problem, and the photographs—many of them from abroad—err in the same direction. This encourages simplification that may be dangerous, because it is unrealistic.

The fact must be faced that country folk are determined to have electricity, and that it is becoming increasingly important on farms, to relieve some of the drudgery about the buildings. Men will not do willingly heavy work which they know can be lightened by the intelligent use of machinery; and who can blame them? If the distribution of electricity is to be widespread, I do not see that it can be underground. The cost may sometimes be exaggerated by interested parties, but, on any showing, it is at present prohibitive. If you have evidence to the contrary, you would be doing a great service by publishing it in detail.

In the meantime, I am inclined to think that we ought to pay much more attention to siting, including possible diversions to suit the contours and other landscape features. I know from recent experience how bitterly the Electricity Boards oppose even slight detours, but we have a stronger case here than if we demand the impossible, which is how I see long stretches of underground cables at present.

Yours, etc.,

JOHN CRIPPS.

We are forced to agree with Mr. Cripps as to the improbability of laying cables underground if the decision rests solely on cost. In order to give readers an idea of a typical case we have investigated a recent one and present the facts and our analysis of them.

In 1950 the Midlands Electricity Board wanted to erect a 66,000 v. power line (on paired and strutted wooden poles, 40 feet high) over the Malvern Hills from Rotheridge Green to Hereford. Objections were raised by East Nore Estates, National Trust, Malvern Hills Conservators and the Worcestershire County Council. Proposals were made for an alternative route further south which were adopted in April, 1951, with the additional proviso that cable between poles 15 and 19, a distance of 614 yards (in this particular 4,730-yard circuit), be put underground. This work has been contracted for and whereas the cost of overhead cable over the entire circuit would have been approximately £8,000, the work is now estimated to cost £7,500 for the overhead sections and £13,500 for the underground section. The underground section is in rocky soil and, since it follows a footpath, is not straight. Injunctions by the NT in September, 1951, to put spans between poles 12 or 13 to 19 underground (i.e. 12 or 13 to 15 in addition to the above), failed.

The breakdown of cost for the portion of line between poles 15 and 19 is significant. The cost of continuing the overhead line for the 600-yard length would have been £500. The cost of the oil-filled (for insulation purposes) cable, with the necessary oil reservoirs, and the cost of jointing alone is £8,700. In addition, excavation comes to £1,800 (under ideal conditions excavation over a similar length would have cost £800) and the terminations where the method of transmission changes come to £3,000. The total makes this particular underground section 27 times as expensive. Over a longer distance the cost would naturally be less.

It is with the cable, as the most expensive item, that we hope the industry will find new and cheaper methods. Terminations could naturally be discounted with large schemes. Excavation appears to cost about 1/10th as much as the cable and the most startling economies here would not alter the total cost to any extent.

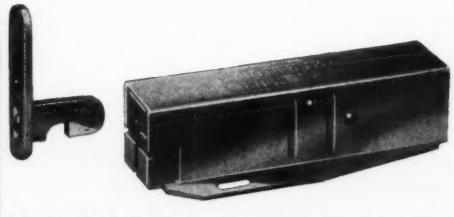
The moral clearly is that if the community doesn't want overhead high tension wires in certain places, then it must agree to pay the relatively high costs of putting them underground, while pressing the authorities to devise means for bringing the costs down. High tension wires are, of course, only a small part of the problem. Often it is the low tension ones strung between fir posts and wreathing about villages and across fields that are far more of a menace; fortunately, however, they are fairly easily and cheaply buried. The REVIEW *will return to the subject of* wirescape, *and will show ways of dealing with the problem, some of them ones already used by the electricity authorities.*—THE EDITORS.

TRADE & INDUSTRY

Tutch Latch

It has been remarked in another part of this issue that in the design of door furniture some of the functional aspects of design have tended to be ignored completely. It always appears to be assumed that anyone wanting to open a door has one hand free to turn a knob or press a lever, despite the fact that this is frequently not the case. The same problem arises with cupboard doors, and until recently it is difficult to recall any attempt to solve this problem.

The Tutch Latch, recently marketed by Linread Ltd., of Cox Street, Birmingham, who hold world patent rights outside the USA and Canada, is designed for those people who seldom have a hand free to open a drawer or cupboard door. It is operated by slight pressure on the face of the door for opening, while shutting in the normal way. The mechanism is fitted to the inside of the cupboard and the door has a notched metal projection on the



14, the Tutch Latch recently marketed by Linread of Birmingham.

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Built in 16 months—using the perfect low-cost flooring

THE NEW OFFICES *of the British Electricity Authority at Southwark. 14,000 square yards of Accotile—"the low-cost floor with the luxury look"—have been laid throughout the building.*
Architects: *W. Curtis Green, R.A., Son and Lloyd.*
Builders: *Sir Robert McAlpine and Sons Ltd.*

The British Electricity Authority's new offices at Southwark (now nearing completion) constitute one of the largest buildings erected in London since the war. The building was completed in approximately 16 months—and the ease with which the Accotile flooring was laid contributed materially to this rate of progress.

THE FLOOR CHOSEN for the new offices of the British Electricity Authority was Accotile (thermoplastic tile flooring made by Armstrong Cork Company Ltd.), because it fulfilled requirements of design and durability—yet cost less to install than many older types of flooring. Fourteen thousand square yards of Accotile were laid in rooms, corridors, lobbies, waiting rooms—and on stairs.

There are good reasons why so many buildings are now floored with Accotile.

* *It is made in a wide range of designs, and no less than 21 attractive colours.*
* *There are two sizes of tile (12″ x 12″ and 9″ x 9″).*
* *It is hard-wearing.*
* *It is easily maintained, and is non-slip, even when wet.*
* *It can be laid quickly and cheaply; no damp course necessary, except where water-pressure is suspected.*
* *Accotile is handled by 42 approved contractors throughout the country.*
* *The use of Accotile Coved Skirting gives an added finish.*

In addition to Accotile, a substantial quantity of Armstrong's Cork Tiles was laid. In a busy office building of this kind, the warmth, comfort and quietening properties of cork are especially valuable. Armstrong Cork Tiles, which can also be used for dados, are easily and inexpensively laid, and give that air of luxury that is so necessary to modern design.

For further information about Accotile and Cork Tiles, architects and builders are invited to write or telephone to:

Armstrong Cork Company Limited: London Office: Flooring Department, Bush House, Aldwych, London, W.C.2. Tel: Chancery 6281. **Glasgow Office:** 5 Oswald Street, Glasgow, C.1. Tel: Central 5703. **Birmingham Office:** Westminster Chambers, 93a Corporation Street, Birmingham. Tel: Central 1271. **Manchester Office:** Royal Exchange Building, Market Street, Manchester. Tel: Deansgate 7311-2. **Dublin Office:** 54 Middle Abbey Street. Tel: Dublin 54901.

ACCOTILE*

"The low-cost floor with the luxury look"

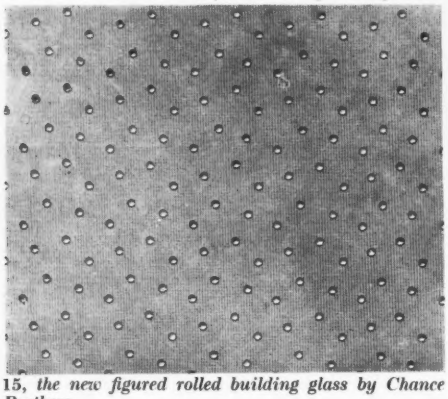
* *British Registered Trade Mark 663698 Armstrong Cork Company Ltd., Registered Users.*

continued from page 134]

inside face, called the strike hook. The latch mechanism consists of a catch and a pusher, spring-loaded by a spring which operates for part of its length in compression and part in tension. When the door is closed the strike hook enters the latch, and is held in the notch by a pivoting arm controlled by the springs. When the catch grips, the pusher is released so that the spring operation is reversed, due to the action of the pivoting arm. A second pressure on the door, therefore, releases the catch so that the strike hook is disengaged. The Tutch Latch is made from steel press work operations and every component is rustproofed. It retails at 3s. 9d.

'Spotlyte' by Chance Brothers

The development of new building materials of all kinds during the last decade has partly been stimulated by changing architectural requirements. It is noticeable, however, that certain traditional materials have stubbornly refused to yield ground to the newcomers, and by dint of improved production methods, new techniques and a progressive approach to utilization and design, their application has even been extended. Building glass is a notable example of this, for although it may not have been seriously threatened in the form of transparent window-glass, those firms with an eye to contemporary architecture and interior design have shown praiseworthy resource in developing glass as a structural and decorative material.



15, *the new figured rolled building glass by Chance Brothers.*

16, *Chaplains' Memorial Chapel, Bagshot.*

At the Building Exhibition last autumn, Chance Brothers exhibited half a dozen new obscured building glasses in order to obtain the consumers' reactions to them. Now they have put on the market the design which topped the popularity poll, and given it the name of 'Spotlyte.' The introduction of a new figured rolled building glass is quite a rare event, and this is their second since the war, following 'Festival' designed specially for the Festival of Britain.

'Spotlyte,' based on a design by Sadie Speight, has a pattern of small half-spheres arranged on a moderately obscured background. Cleaning is easy and the pattern is such that adjacent panes do not need matching. Supplies are available at the normal price for reeded glass and the manufacturers have samples available for architects and designers.

Church Woodwork

Although the age of craftsmanship has already been written off by many, it is still flourishing in those places where, indeed, one would expect to find it, but where, because of its traditional style, it perhaps has little opportunity of achieving public attention. This is particularly true of wood carving as applied to churches and chapels in all parts of the country, where it is in constant demand for ceremonial chairs, pulpits, screens, lecterns, pews, altars, fonts, memorials and decorative details. Scott Morton, of Murieston Road, Edinburgh, have executed woodwork for churches as far apart as St. Magnus Cathedral at Kirkwall in the Orkneys, the Chaplains' Memorial Chapel, Bagshot and the Cathedral, Bermuda, and devote a complete section of their business to this purpose. They produce in other sections, fittings and furnishings for all kinds of public and private buildings and for ships and they also manufacture revolving doors.

Booklets Received

Cafés, Tea Rooms and Milk Bars is No. 5 in the series of booklets on the Commercial Uses of Gas, published recently by the Gas Council. It enumerates

[continued on page 138

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in almost tabulated form the basic essentials to be observed in planning catering establishments of this kind for rapid and efficient service. Details of ventilation, heating and hygiene are dealt with together with the laws and by-laws which apply, and finally the various gas appliances suitable for heating, warming, cooking, water-heating, refrigerating and all necessary services are described. The booklet is available from the Gas Council, 1 Grosvenor Place, London, S.W.1, price 2s. post free.

Zinc Bulletin 9, issued by the Zinc Development Association and available free from them at Lincoln House, Turl Street, Oxford, is devoted mainly to the forms and applications of zinc coatings. In a period of steel shortage it is pointed out that any economical method for conserving and preserving steel is an important matter, and the methods and advantages of the hot dip galvanizing process on steel pylons, for example, of zinc-spraying, and the use of zinc-rich paints are effective methods of achieving this. Another section describes the use in America of zinc alloy die castings in the design and manufacture of household fittings and an information sheet deals with the use of zinc sheet for door and porch hoods.

Some Hints on Planning an EJMA Kitchen is the title of a pamphlet issued by the English Joinery Manufacturers' Association of Sackville House, 40 Piccadilly, W.1, which sets out three designs for kitchens incorporating standardized fitments. It is pointed out that the Ministry of Housing and Local Government has recently circularized local authorities on the need for economy through careful selection of fittings and equipment. EJMA point the way to the lowering of costs through the use of standardized fittings which at the same time will preserve reasonable standards of quality and performance. The plans comprise scheme 1 for a dining kitchen, scheme 2 for a kitchen with utility room adjoining—to separate food preparation from other kitchen tasks—and scheme 3 for a working kitchen.

Catalogues

Sanitary Equipment for Hospitals is issued by Rowe Bros. & Co., of 7 Unity Street, College Green, Bristol, 1, and gives full details of the ranges of general and specialized equipment which they produce for installation in hospitals, public institutions, nursing homes and similar establishments. Apart from catalogued equipment Rowe Bros. maintain a technical staff at each of their branches in London, Birmingham, Liverpool, Bristol, Exeter and Blackpool to advise on alternative equipment for special requirements. Their Site Service Scheme has been established to ensure that the special care in handling and the best arrangements for delivering, so important with this class of equipment, is ensured.

H. McG. Dunnett

CONTRACTORS etc

Clock Tower at Lansbury. *General contractors:* Leslie & Co. *Sub-contractors: Electrical installation:* Bective Electrical Co. *Clock:* Gillett & Johnston Ltd. *Collapsible gates:* Shutter Contractors Ltd. *Balustrades:* Light Steelwork (1925) Ltd. *Reinforced concrete:* Diespeker & Co. *Lighting conduit:* R. C. Cutting & Co.

Flats at Harrow. *General contractors:* T. F. Nash (Construction) Ltd. *Sub-contractors: Hollow tile floors:* Flooring Contracts Ltd. *Electrical installation:* Renouf & Calvert. *Plumbing:* W. H. Earley Ltd. *Roof tiling:* Stirling & Johnson Ltd. *Balcony railings and staircase balustrades:* Morris Singer Ltd. *Floor tiles:* Marley Tile Co. *Balcony floor finish:* The General Asphalte Co. *Fencing:* Invicta Fencing Co. *Garden planting:* Landscape Ltd. *Metal windows:* Williams & Williams Ltd. *Artificial stonework:* Girlings Ferro-Concrete Co. *Steel roof trusses:* Dacro Structures Ltd. *Grates:* W. N. Froy & Sons. *Fireplace surrounds:* British Building Supplies Ltd. *Barrel vault ceilings:* Trussed Concrete Steel Co. *Panel doors:* Merchant Trading Co. *Kitchen fittings:* Jayanbee Joinery Ltd. *Ironmongery:* A. J. Binns Ltd. *Facing bricks:* Henry J. Greenham (1929) Ltd. *Gas sink water heaters:* Ewart & Sons Ltd. *Sanitary fittings:* B. Finch & Co.

Flats at Nuneaton. *General contractors:* Morris & Jacombs Ltd. *Sub-contractors: Hollow tile floors:* The Kleine Co. *Roof tiling:* Broadbent & Stephens Ltd. *Balcony railings and staircase balustrades:* Bigwood Bros. (Birmingham) Ltd. *Plumbing:* David F. Wiseman & Sons. *Electrical installation:* Etna Heating & Lighting Co. *Internal floor finishes:* The Neuchatel Asphalte Co. *Rustic facing bricks:* Ibstock Brick and Tile Co. Ltd., supplied by J. H. Sankey & Sons. *Steel roof purlins:* Charles Wade & Co. *Metal windows:* Stelwin Construction. *Sanitary fittings:* A. D. Foulkes Ltd. *Fireplace surrounds and grates:* Parsons Sherwin & Co. *Ironmongery:* Baldwins (Birmingham) Ltd. *Panel doors:* Hollis Bros. Ltd. *Artificial stonework:* Tarmac Ltd.

Paper Mills near Bridgend, South Wales. *General contractors:* Richard Costain Ltd. (superstructure); G. Percy Trentham Ltd. (siteworks). *Sub-contractors: Excavation:* Richard Costain Ltd. *Foundations:* Pressure Piling. *Dampcourses:* George M. Callender & Co. *Asphalt:* John Dickinson (Bolton) Ltd. *Reinforced concrete:* G. Percy Trentham Ltd. *Bricks and tiles:* Tondu Brick Co. *Artificial stone:* Penarth Concrete Co. *Structural steel and iron staircases:* Braithwaite & Co. Engineers. *Fireproof construction and doors:* Mather & Platt Ltd. *Special roofings:*

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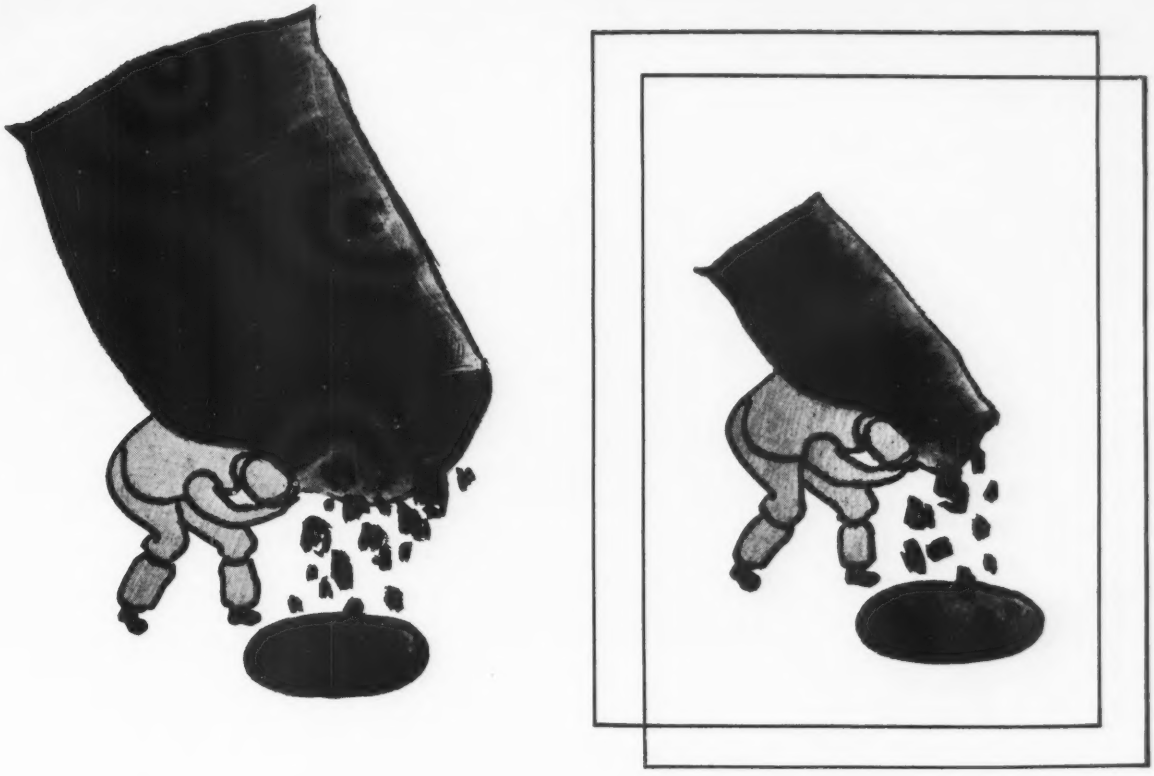

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Send for the booklet about their advantages and the methods of fixing.

Consult the Technical Sales and Service Department at St. Helens, Lancs., or Selwyn House, Cleveland Row, St. James's, S.W.1. Telephones: St. Helens 4001; Whitehall 5672-6. Supplies are available through the usual trade channels.

BRITISH GLASS P.B.

PILKINGTON BROTHERS LIMITED

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continued from page 138]

William Briggs & Sons. *Glass:* Pilkington Bros. *Glass blocks:* Bristow Wadley & Co. *Patent glazing:* Mellowes & Co. *Woodblock flooring:* Robinson David & Co. *Floor plates:* Stelcon (Industrial Floors) Ltd. *Plastic tiles:* Semtex Ltd. *Waterproofing materials:* Tretol Ltd. (to precast stanchion encasures). *Central heating:* Carrier-Ross Engineering Co. (consultants). *Cooking and kitchen installation:* Benham & Sons. *Electric wiring:* Holliday Hall & Stinson (Western) Ltd. (contractors). *Electric light fixtures:* General Electric Co. *Ventilation:* Carrier-Ross Engineering Co. *Plumbing:* Richardson's Power Piping (machines and office block main runs), Messrs. J. C. Hitt of Bridgend (domestic in offices, etc.). *Sanitary fittings:* Associated Clay Industries Ltd. *Stairtreads (terrazzo):* Cardiff Mosaic Ltd. *Casements and window furniture:* Henry Hope & Sons. *Telephones:* G.P.O. *Folding gates:* Bolton Gate Co. *Rolling shutters, metalwork:* Haskins. *Sunblinds:* J. Avery & Co. *Plaster:* Messrs. Hawkins & Holmes. *Joinery:* Messrs. Herberts. *Furniture (laboratory fittings):* A. Gallenkamp & Co. *Shrubs and trees:* William Wood & Sons. *Office fittings:* Roneo Ltd. *Cloakroom fittings:* James Gibbons. *Lifts:* Bennie Lifts Ltd. *Cranes:* Vaughan Crane Co. *Water supply:* Mid-Glamorgan Water Board.

Nursery School at Poplar, London. *General contractors:* Tersons Ltd. *Sub-contractors: Roofing:* William Briggs & Sons. *Sanitary fittings:* Stitsons Sanitary Fittings. *Copper:* Frederick Braby & Co. *Sprayed ceilings:* Meta Mica Ltd. "*Accotile*" *floors:* Armstrong Cork Co. *Ceilings:* Sundeala Board Co. *Venetian blinds:* Tidmarsh & Sons. *Doors:* Gliksten Doors Ltd. *Garden layout:* Grassphalte Ltd. *Windows:* Williams & Williams Ltd. *Handrails:* Clark, Hunt & Co. *Joinery and fittings:* Rippers Ltd. *Fencing:* Bayliss, Jones & Bayliss Ltd. *W.C. partitions:* Mosaic and Terrazzo Precast Co. *Roofs:* Stramit Boards Ltd. *Fibrous plaster:* Dejongs. *Flooring:* Granwood Flooring Co. *Structural steel:* Hills (West Bromwich) Ltd. *Ironmongery:* Rennis Ltd.

Flats at Brixton, London. *General contractors:* George Parker & Sons. *Sub-contractors: Dampcourses:* Ruberoid Co. *Bricks:* Sydney A. Hunter Ltd. *Artificial stone:* Reinforced Structures Ltd. *Partitions:* Broads Ltd. *Patent flooring:* Horsley Smith & Co. *Grates:* Ashley Brandon. *Gas fixtures, gas fittings:* South Eastern Gas Board. *Electric wiring, electric light fixtures:* London Electricity Board. *Plumbing:* Dent & Hellyer Ltd. *Sanitary fittings:* Shanks & Co. *Stair treads:* Safety Tread Syndicate Ltd. *Door furniture:* A. G. Froy & Sons. *Metalwork:* Light Steelwork (1925) Ltd. *Shrubs and trees:* Turfsoil Ltd.

Colombo Exhibition, Ceylon. *General site contractor:* D. Jason Fernando, Colombo. *Electrical contractors:* Fentons Ltd., Colombo. *Display contractors: UK Pavilion:* F. W. Clifford Ltd., F. E. Ward & Co. (COI Display), C.D. Productions Ltd. (Iron and Steel); *SEAT Pavilion:* Cane Furnishers Ltd., Colombo.

Van Riebeeck Festival Fair, Capetown. *General contractor:* L. A. Steens.

ACKNOWLEDGMENTS

Acknowledgments for illustrations in this issue are due as follows: Cover, H. G. Casparius. Frontispiece, Raymond Wilson. RECENT BUILDING AT OXFORD AND CAMBRIDGE, pages 73–79; all photographs by the author. THREE BUILDINGS BY FREDERICK GIBBERD, pages 80–89; all photographs by Wainwright except 1, Andrey Anderson. IDEAL CITY, pages 90–101; 6, 17, W. F. Mansell; 4, 18, H. G. Casparius. COLOMBO EXHIBITION, CEYLON AND VAN RIEBEECK FESTIVAL FAIR, CAPETOWN, pages 102–107; 2, 9, 10, 11, 12, 13, Press Photo Service; 3, Associated Newspapers of Ceylon. CHANGE OF LEVEL, pages 108–115; 2, 3, 4, 6, 11, 18, 19, de Wolfe, Arphot; 5, 8, 12, 13, Galwey, Arphot; 1, 7, 10, McCallum, Arphot; 9, Peter Dodds; 14, 17, 20, Cullen, Arphot. DOOR AND WINDOW FURNITURE, pages 116–121; page 116: top right, Council of Industrial Design; top left and bottom left, Galwey, Arphot; bottom right, Colin Westwood; 1, 2, Craftsman; 4, 26, Manor Studio; 5, 12, 25, Council of Industrial Design; 6, 24, Fox Photos; 7, 8, 9, H. J. Hare; 10, M.P.H. (Designers); 14, Studio Sun; 20, John Tarlton; 21, 22, George Miles; 23, Galwey, Arphot; 27, Sydney Newbery; 28, 'Machinery,' Brighton; 31, Colin Westwood; 32, Brown's, Liverpool. CURRENT ARCHITECTURE, pages 122–124; 1, 2, 3, T. Hylton Warner; 4, 5, 6, 7, John Pantlin. MISCELLANY, pages 125–130; *Townscape*, 1, 2, 3, 4, 6, 7, de Wolfe, Arphot; 5, Galwey, Arphot; 8, McCallum, Arphot. MARGINALIA, pages 131–140; 1, Jane Bown; 2, 3, Sam Lambert; 4, Galwey, Arphot; 10, G. G. Garland; 11, David Farrell; 12, Bacci Attilio; 16, Sydney Newbery.

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